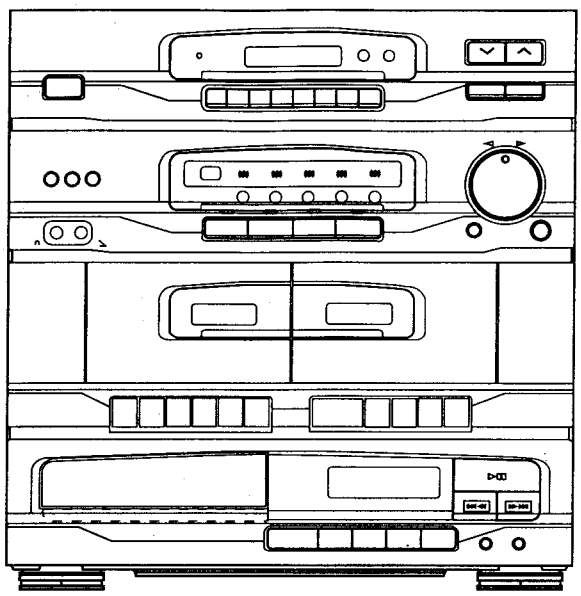
SAMSUNG

SERVICE MANUAL

SCM-8100

HI-FI MUSIC CENTER WITH COMPACT DISC PLAYER



SPECIFICATION

GENERAL SECTION

Power Consumption	:	85W
Dimension	:	360(W)x370(H)x277(D)mm
Weight (NET)	:	6.8Kg
Power source	:	See the label rating

RADIO SECTION

LW BAND

Frequency Range	:	146KHz~290KHz
Usable Sensitivity	:	1000μV
Signal to Noise Ratio	:	30dB

MW BAND

Frequency Range	:	522KHz~1611KHz
Usable Sensitivity	:	600μV
Signal to Noise Ratio	:	40dB

FM BAND

Frequency Range	:	87.5MHz~108MHz
Usable Sensitivity	:	6μV
Signal to Noise Ratio	:	65dB
Total Harmonic Distortion	:	0.3%
Separation	:	40dB

TAPE SECTION (RECORD/PLAYBACK)

Frequency Range	:	125Hz~10KHz
Signal to Noise Ratio	:	45dB
Separation	:	35dB
Total Harmonic Distortion	:	3%
Erasing Effect	:	60dB
Wow & Flutter	:	0.3%

COMPACT DISC PLAYER SECTION

Signal to Noise Ratio	:	80dB
Total Harmonic Distortion	:	0.05%
Channel Separation	:	75dB
D/A Conversion	:	16 bits

AUDIO SECTION

Output power (THD 10%)	:	20W/CH
Frequency response	:	20~20,000Hz
PRESET EQ	:	JAZZ,VOCAL,CLASSIC POP
S/N Ratio	:	70dB

* *Design and specifications are subject to change upon improvement without prior notice.*
* *Frequency range in radio section can be a little different from the above in accordance with frequency step or region.*

CONTENTS

■ SAFETY PRECAUTION 2

■ SERVICING NOTE 3

■ LOCATION OF CONTROLS
1. FRONT VIEW 4
2. REAR VIEW 5
3. REMOTE CONTROL UNIT 6

■ DISASSEMBLY INSTRUCTION 7

■ BASIC CIRCUIT OPERATION
1. TUNER SECTION 8
2. CD PLAYER SECTION 9

■ TROUBLE SHOOTING GUIDE
1. MAIN SECTION 14
2. CD PLAYER SECTION 16

■ ADJUSTMENT
1. TUNER SECTION 17
2. CD PLAYER SECTION 19
3. TAPE RECORDER SECTION 20

■ BLOCK DIAGRAM 21

■ EXPLODED VIEW & PARTS LIST
1. CD PLAYER ASS'Y SECTION 22
2. MAIN SECTION 23
3. CASSETTE DECK ASS'Y SECTION 25
4. REMOTE CONTROL SECTION 27

■ ELECTRICAL PARTS LIST 28

■ SCHEMATIC DIAGRAM 30

■ WIRING DIAGRAM 33

■ ABBREVIATION LIST 34

■ SAFETY PRECAUTION

1. CLASS1 LASER PRODUCT

This compact disc player is classified as a CLASS 1 laser product.

2. LASER WARNING LABEL

The label shown below may be affixed or not according to country.

(UL)

This Product Compiles with DHHS Rules 21CFR, Sub chapter J.At date of Manufacture.

(EU)

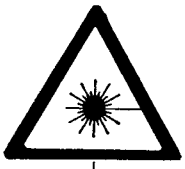
CLASS 1
LASER PRODUCT

Location : Enclosure back.

(SCAN)

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

(EU)



UL	:	Manufactured for U.S.A. Market.
EU	:	Manufactured for European Market
SCAN	:	Manufactured for Scandinavian Market.

Location : on the disc clamper or inner side of CD door or nearby CD chassis.

3. LASER BEAM WARNING

ADVERSEL — USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING — OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRALEN ÄR FARLIG.

VARITUS — LAITE SISÄLTÄA LASERDIODIN, JOKA LÄHETTÄÄ NÄKYMÄTÖNTA SILMILLE VAARALLISTA LASERSATEILYÄ.

CAUTION — INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

4. LASER DIODE SPECIFICATION (OPTICAL PICK-UP)

- o Material: AlGaAs
- o Wavelength: 760-800mm
- o Emission duration: Continuous
- o Laser Output: 0.2mW
- o * This output is the value measured at distance 1.6mm from the objective lens surface on the optical pick-up block.
- o Classification: CLASS 1

5. WARNING FOR SERVICING

WARNING: When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30cm from the surface of the objective lens on the optical pick-up block.

VARNING: När underhållningsarbeten utförs, närma dig försiktigt och se inte på laserutstrålningen på för näre häll. Ifall det är nödvändigt att betrygga laserstrålens utströmning. Var säker att kontrollera detta från ett avstånd av mer än 30cm (11.81 inch.) från den objektiva linsens yta på den optiska utsåndningspunkten.

ADVARSEL: Når repareringsarbejdet udfoeres, naerm dig forsigtigt og se ikke på laserudstrålingen på for naer hånd. It ilfaeldet at det er noedvaendigt at bestemme laserstrålens udstråling. Vaer sikker på kontrollere dette fra en afstand af mere end 30cm (11.81 inch.) fra den objektive linses overflade på den optiske udsendningspunkt.

VAROITUS: Silmiä on varottava viemästä liian läbeiie Laser-poistokanavaa huoiion aikana. Jos on välttämätöntä varmistaa Laser-Säteen päästö, pysyttels sitä tarkasteltaessa vähintään 30cm etäiyydellä optisen lukon objecktiivilinssin pinnasta.

■ SERVICING NOTE

1. Prevent shock hazard by unplugging power supply cord before opening cabinet.
2. Avoid repairing under direct sunshine and heat which may cause cabinet, transistor and IC to be transformed or misoperate.
3. Use a soft cotton swab moistened with warm water or neutral cleaner when parts of unit need to be cleaned.
4. When replacing parts with safety features built in, be sure to use specified parts with same specs only.
5. Avoid repairing the set near TV or any other magnetic forces.
6. Disconnect plug from wall socket during electric storm to reduce the risk of damage.
7. Be careful of electrostatic source when using control IC.
8. Be sure not to separate the pick-up from the unit.

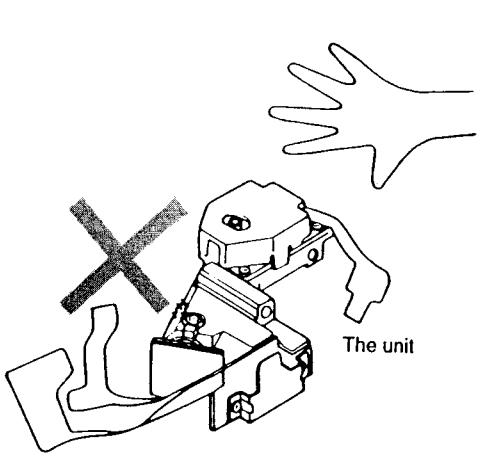
HANDLING THE OPTICAL PICK-UP

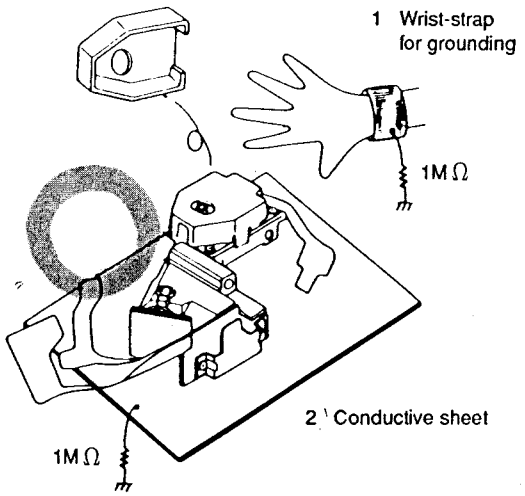
The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

The following method is recommended.

1. Place a conductive sheet on the work bench (The black sheet used as wrapping for repair parts).
2. Place the set on the conductive sheet so that the chassis is grounded to the sheet.
3. Place your hands on the conductive sheet (This gives them the same ground as the sheet).
4. Remove the optical pick up block.
5. Perform work on top of the conductive sheet.
   Be careful not to let your clothes or any other static sources to touch the unit.

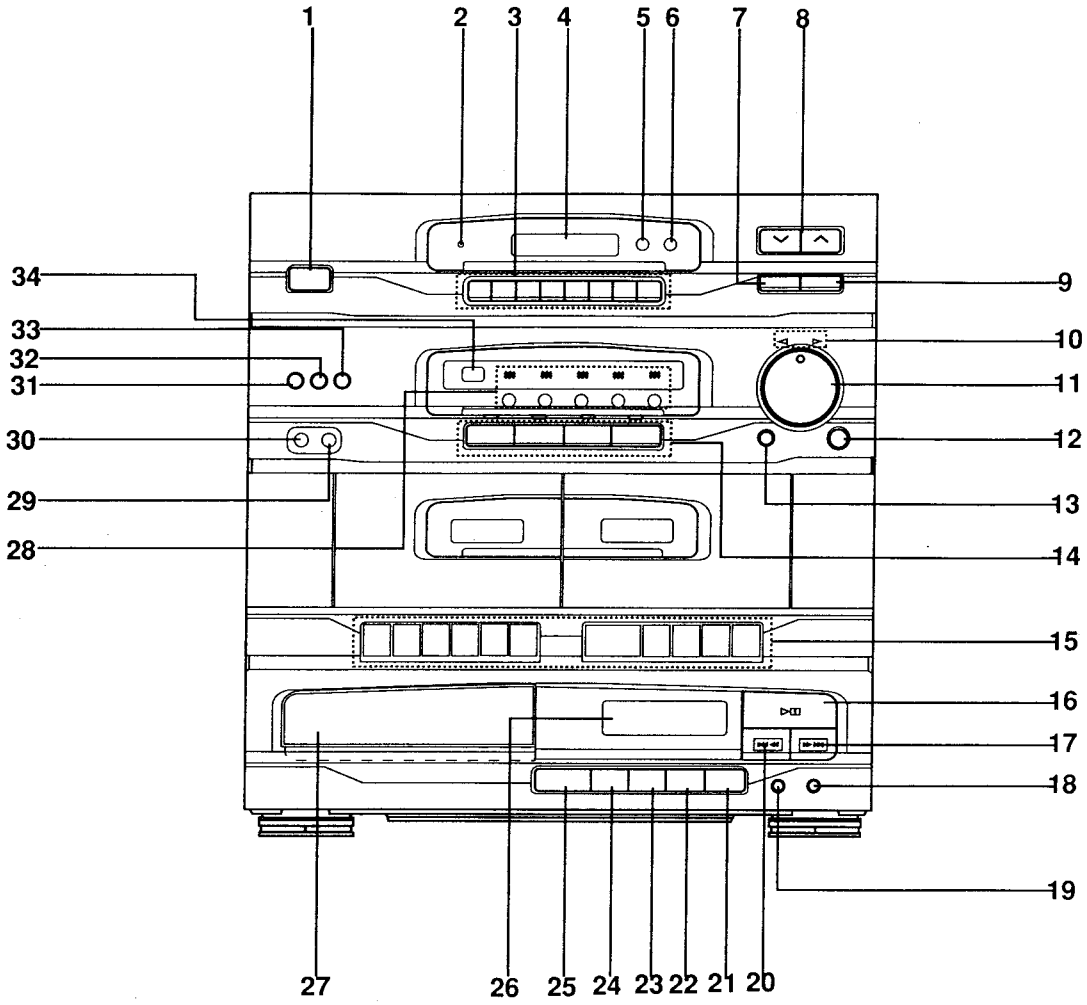
   * Be sure to put on a wrist strap grounded to the sheet.
   * Be sure to lay a conductive sheet made of copper etc. which is grounded to the table.





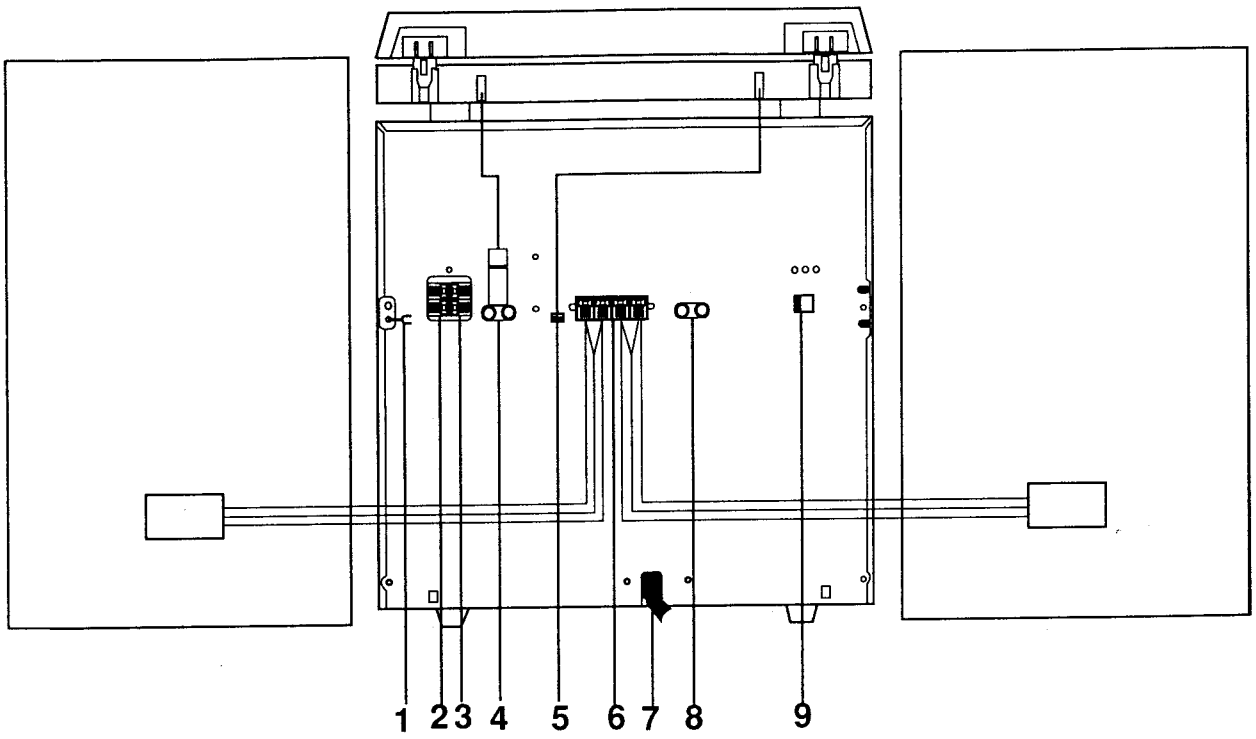
■ LOCATION OF CONTROLS

1. FRONT VIEW



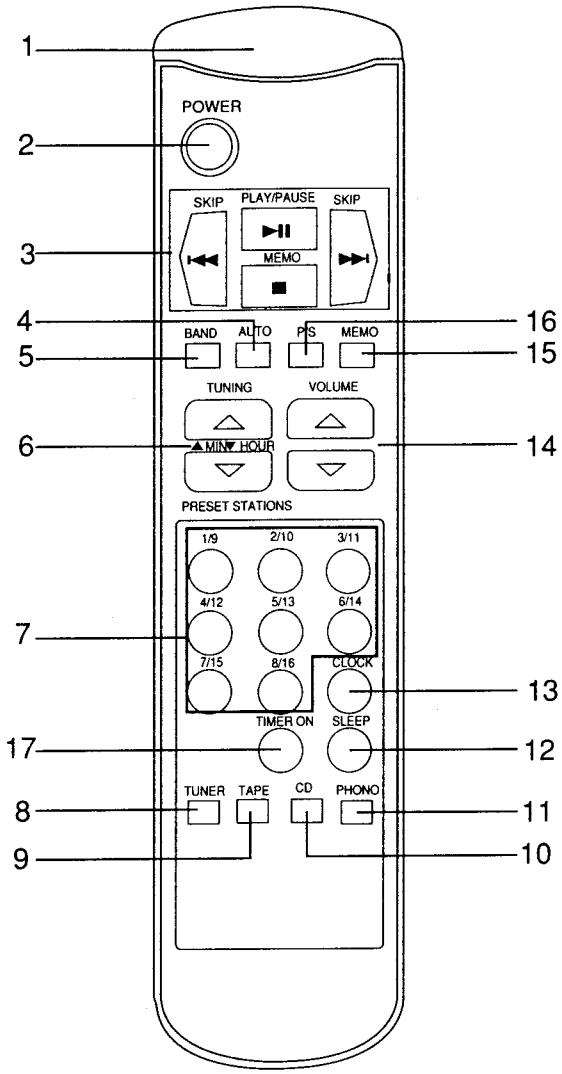
1. POWER BUTTON
2. FM STEREO INDICATOR
3. PRESET STATION BUTTON
4. TIME/TUNER DISPLAY
5. MEMORY BUTTON
6. TIMER ON/AUTO/MANUAL BUTTON
7. BAND BUTTON
8. TUNING UP/DOWN BUTTON (TIME)
9. MODE BUTTON
10. VOLUME INDICATOR
11. VOLUME
12. BALANCE
13. C.F.B.S BUTTON
14. FUNCTION SELECTOR BUTTON
15. A/B DECK
    RECORD BUTTON
    PLAY BUTTON
    REWIND BUTTON
    FAST FORWARD BUTTON
    STOP/EJECT BUTTON
    PAUSE BUTTON
16. PLAY PAUSE BUTTON
17. F. SKIP SEARCH BUTTON
18. RAMDOM PLAY BUTTON
19. INTRO SCAN BUTTON
20. BACK SKIP/SEARCH BUTTON
21. STOP/CLEAR BUTTON
22. PROGRAM BUTTON
23. REPEAT BUTTON
24. DISPLAY BUTTON
25. OPEN/CLOSE BUTTON
26. CD DISPLAY
27. CD DOOR
28. EQ PRESET BUTTON
29. MIC JACK
30. PHONE JACK
31. HI-SPEED DUBBING BUTTON
32. TAPE SELECTOR BUTTON
33. SURROUND BUTTON
34. REMOTE SENSOR

2. REAR VIEW



1. GROUND TO T/TABLE
2. FM ANTENNA JACK
3. AM ANTENNA JACK
4. PHONO INPUT JACK
5. T/TABLE DC JACK
6. SPEAKER TERMINAL (L,R)
7. POWER CORD
8. SURROUND SPEAKER JACK (L,R)
9. VOLTAGE SELECTOR (OPTIONAL)

3. REMOTE CONTROL UNIT



1. INFRARED TRANSMITTER WINDOW
2. POWER ON/OFF BUTTON
3. CD CONTROL BUTTON
   - PLAY/PAUSE BUTTON
   - STOP BUTTON
   - SKIP BUTTON
4. AUTO TUNING BUTTON
5. BAND BUTTON
6. TUNING UP/DOWN BUTTONS
7. PRESET STATION BUTTONS
8. TUNER BUTTON
9. TAPE BUTTON
10. CD BUTTON
11. PHONO BUTTON
12 SLEEP BUTTON
13. CLOCK BUTTON
14. VOLUME UP/DOWN BUTTONS
15. MEMORY BUTTON
16. PRESET SCAN BUTTON
17. TIMER ON

■ DISASSEMBLY INSTRUCTION

* Follow disassembly procedure in the numerical order given.

1. CD DOOR GUIDE & CASSETTE DOOR -FIG.1

1) Press OPEN/CLOSE button.
2) Remove CD DOOR GUIDE. (direction A)
   [How to remove DISC TRAY] → See FIG. 5
   * POWER FAILURE : TRAY COVER up (↖) and pull out. (direction A).
3) Press STOP/EJECT button.
4) Press hook (① : direction c) and remove CASSETTE DOOR (direction B)

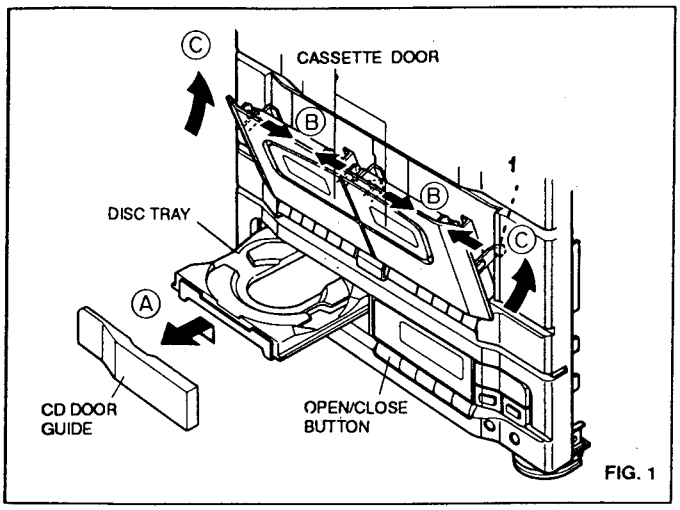


FIG. 1

* Be sure to unplug the power cord before disassembling the unit.

2. TOP CABINET & REAR CABINET - FIG. 2

1) Release 10 screws (②).
2) Remove TOP CABINET (direction A)
3) Release 10 screws (③).
4) Remove REAR CABINET (direction B).

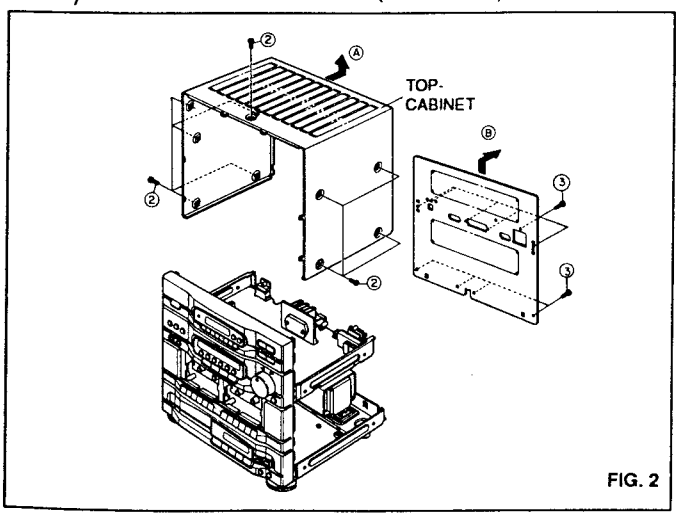


FIG. 2

3. MAIN PCB & FRONT PCB-FIG. 3

1) Release 7 screws (②, ③).
2) Remove MAIN PCB.
3) Release 8 screws (①).
4) Remove FRONT PCB.

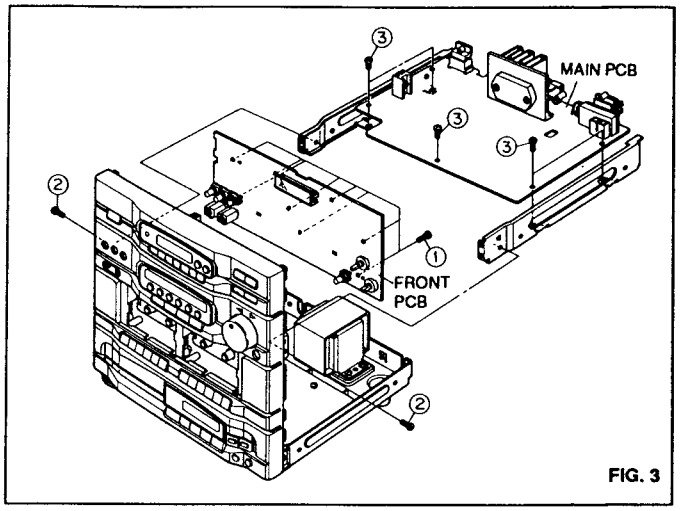


FIG. 3

4. CASSETTE DECK - FIG.4

1) Release 7 screws (①).
2) Remove CASSETTE DECK ASSEMBLY.

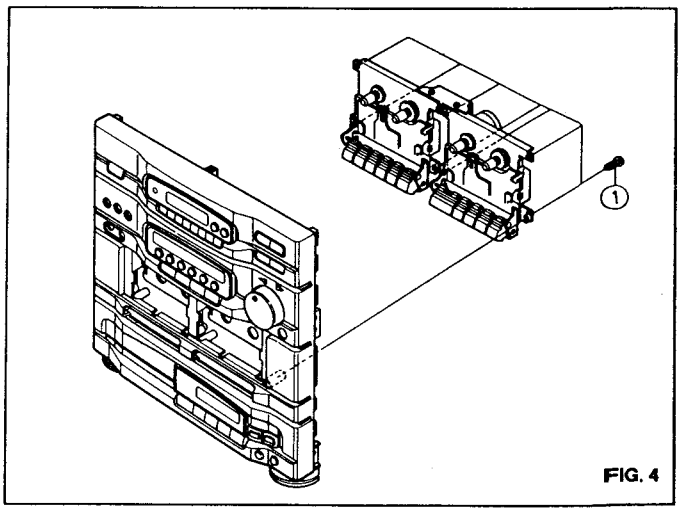


FIG. 4

5. CD-PCB & CD DECK - FIG. 5

1) Release 5 screws (①).
2) Remove CABINET-BOTTOM.
3) Release 3 screws (②)
4) Remove CD-PCB
5) Release 4 screws (③)
6) Remove CD-DECK

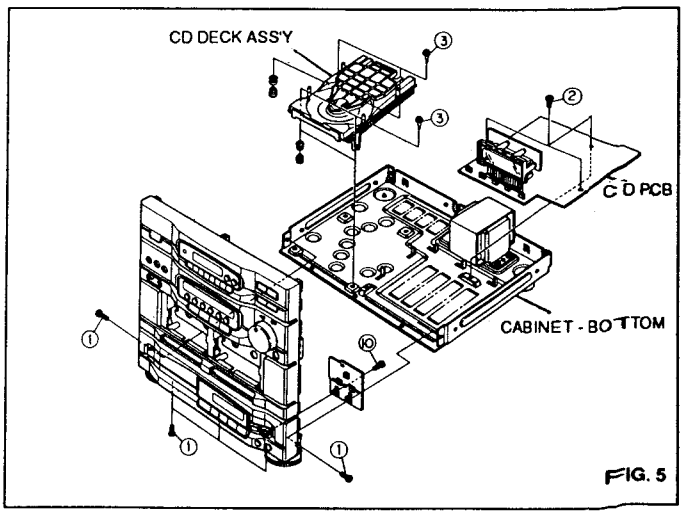


FIG. 5

■ BASIC CIRCUIT OPERATION

1. TUNER

● LC7230-8453 (μ-COM) : UIC1

* I : INPUT, O : OUTPUT

PIN No.	PIN NAME	I/O	OPERATION	ACTIVE
1	XIN	I	Crystal oscillating port. (4.5MHz)	—
2, 79	TEST 1, 2	I	Connect to GND	—
3	REMOCON	I	Remote control input port. If it is open, it may cause Remote Control to malfunction.	L
4	$\overline{\text{STEREO}}$	I	GND	L
5 ~ 6	K5, K4	I	DIODE MATRIX INPUT SIGNAL	H
7	CE2	O	CD REMOTE CONTROL PORT	L
8-9	$\overline{\text{FM}}$, $\overline{\text{AM}}$, $\overline{\text{LW}}$	O	Band power convert port.	L
10	PHONO LED	O	PHONO LED control port	H
11	VR UP	O	If volume up signals are input, it ouputs high voltage.	H
12	VR DOWN	O	If volume down signals are input, it ouputs high voltage.	H
13	MUTE	O	Not in use	
14	$\overline{\text{MO/ST}}$	O	Mono stereo selection port.	H
15~17	CE, DO, CLK	O	LC7821 control port. (serial data line)	H,H,
18	IF CNT	O	IF signal output port. If low voltage is input to SD port (LA 1851N) during auto search, it changes from low to high.	H
19	TUNER LED	O	TUNER LED Control port.	H
20	POWER OUT	O	Power control port.	H
21	$\overline{\text{A MUTE}}$	O	Audio mute port.	L
22	TAPE LED	O	TAPE LED Control port.	H
23	CD LED	O	CD LED Control port.	H
24~30	T6-T0	O	Key scan output signal.	H
32~35	K3-K0	I	Key input signal.	H
36~63	S1-S28	I	LCD Segment drive port.	—
64, 65	COM1,2	O	LCD Common drive port.	—
66	INT	I	Remote control port	
67	$\overline{\text{HOLD}}$	O	L-Back up mode.	L
68	$\overline{\text{RES}}$			
69	SD	I	Broadcast receiving port.	L
70	HCTR	I	FM IF Signal input port.	—
71	LCTR	I	AM IF Signal input port.	—
72	SNS	I	POWER ON/OFF Control.	H
74, 75	FM IN, AM IN	I	Input local OSC signal.	—
77, 78	EQ1, 2	O	Phase comparison output signal. (pin77 : AM, 78 : FM)	
31, 73	VDD			
76	Vss			
80	XOUT	O	Crystal oscillating port. (4.5MHz)	—

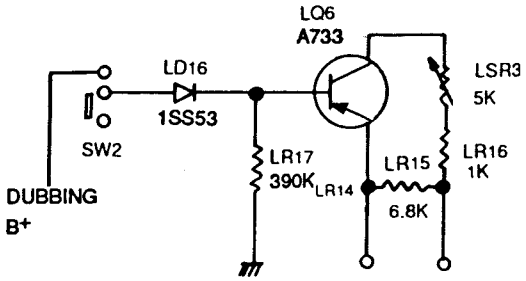
2. TAPE RECORDER

1) PLAY

When PLAY button of deck A is pressed, leaf switch is on which drives the motor through CD 1.
Deck A is operational when pin 9 of JIC1 (LA 3246) is at 0V.
When the PLAY button of deck B is pressed, the Leaf switch of deck B is on, which drives the motor through CD2.
Deck B is operational when 5~6 voltage is applied to pin 9 of JIC 1 LA 3246.
If you press both PLAY button of deck A and B simultaneously, deck B operates, first.

2) RECORD
If RECORD button of deck A is pressed, voltage is applied to the tape oscillation coil (LLI), which generates the bias supply current (105KHz) and, the current is supplied through the JC17L and JC17R to R/P head.
At this time, the current is combined with the current of the Record Amplifier Output incorporated in the JIC1 (TA8135 pin7, 16) then supplied to the R/P HEAD which records signal.
At this moment, PLAY Equalizer of deck A, B is set to deck B (pin1,2,19,20 of JIC1)

3) MOTOR SPEED
In normal speed, the speed is determined by the value which LR15 is combined with LSR3 + LR16 (LQ6 base : high)
Therefore, the motor speed is in proportion to the resistor value. High speed dubbing operates only when recording in deck A and playing in deck B.
When SW2 is on, B+ voltage which will turn LQ6 off is supplied to base of LQ6. Then motor rotates at high speed.
High rotational speed is determined by voltage at LQ6.



3. CD PLAYER

1) KS5990/KS59910 (Digital Signal Processor) : IC401

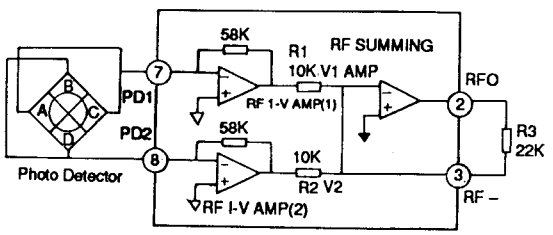
* I/O : INPUT/OUTPUT

Pin No.	Symbol	I/O	Description
1	SMEF	O	Pin 1 output is switched constant when output filter of the spindle motor is energized.
2	SMON	O	ON/OFF control for spindle motor.
3	SMPD	O	Spindle motor drive. Provides rough control during CLV-S mode and phase control during CLV-P mode.
4	SMSD	O	Spindle motor drive. Controls speed during CLV-P mode.
5	EFMZ	I	EFM signal from RF amplifier.
6	EFMO	O	Controls slice level of the EFM signal.
7	LOCK	O	The output of pin 7 reflects the status of the GFS signal which is sampled at PBFR/16. When the GFS signals is "H", but, when the signal has remained "L" for at least 8 samples, the output of pin 7 is "L".
8	VCOO	O	VCO output. The frequency is f = 8.6436MHz, when locked by the DBFR signal.
9	VCOI	I	VCO input.
10	TEST	I	(0V).
11	PHAS	O	The output of Pin11 provides phase comparison of EFM signal and VCO/2.
12	Vss	—	GND (0V).
13	MCK	I	Pin 13 provides serial transmission clock from the CPU. Data is latched on the leading edge of the clock.
14	MLT	I	Pin 14 provides latch input from the CPU. 8-bit shift register data (serial data received from the CPU) is latched in each of the registers.
15	MDAT	I	Serial data from the CPU.
16	XRST	I	System reset ("L").
17	TRCK	I	Tracking pulse input.
18	ISTAT	O	Output reflecting internal condition as designated by address.
19	MUTE	I	Muting input. MUTE is "L" when ATTM of internal register A is "L" (normal condition). MUTE is "H" when muting condition is set.
20	SQOK	O	Output the results CRC check of subcode Q.
21	SBCK	I	Clock input for subcode serial output.
22	SDAT	O	Serial output of subcode.
23	SQDT	O	Output of subcode Q.
24	S0S1	O	Output of subcode sync S0 + S1.
25	SQCK	I/O	Clock for reading subcode Q.
26	SQEN	I	Input for selecting SQCK (L; SQCK is output, H; SQCK is input)

Pin No.	Symbol	I/O	Description
27	SRAM	I	SRAM is "H" in Normal, SRAM is "L" when system is testing.
28	LKFS	O	Display output for frame sync lock status.
29	DB8	I/O	Data pin for external RAM. DATA8 (MSB) in test mode. Hi-Z in normal
30	DB7	I/O	Data pin for external RAM. DATA7 in test mode. Hi-Z in normal
31	DB6	I/O	Data pin for external RAM. DATA6 in test mode. Hi-Z in normal
32	DB5	I/O	Data pin for external RAM. DATA5 in test mode. Hi-Z in normal
33	V_{DD}	—	Power supply (+ 5V).
34	DB4	I/O	Data pin for external RAM. DATA4 in test mode. Hi-Z in normal
35	DB3	I/O	Data pin for external RAM. DATA3 in test mode. Hi-Z in normal
36	DB2	I/O	Data pin for external RAM. DATA2 in test mode. Hi-Z in normal
37	DB1	I/O	Data pin for external RAM. DATA1 (LSB) in test mode. Hi-Z in normal
38	AD01	O	(LSB)
39	AD02	O	In normal mode (TEST = 'L', SRAM = 'H'), these pins are High impedance (Hi-Z) In test mode (TEST = 'H', SRAM = 'L'), these pins are Output address of external RAM
40	AD03	O	
41	AD04	O	
42	AD05	O	
43	AD06	O	
44	AD07	O	
45	AD08	O	
46	AD09	O	
47	AD10	O	
48	AD11	O	(MSB)
49	WE	I/O	In normal mode, this is WE output. In test mode, write enable input.
50	CE	I/O	In normal mode, this is CE output. In test mode, chip enable input.
51	4MCK	O	Divider output for crystal. f = 4.2336MHz
52	Vss	—	GND (0V)
53	XIN	I	Input to crystal oscillator circuit. Depending on the mode the frequency is either f = 8.4672 or 16.9344MHz.
54	XOUT	O	Output from crystal oscillator circuit. Depending on the mode the frequency is either f = 8.4672 or 16.9344MHz.
55	SEL1	I	Mode selection input 1.
56	SEL2	I	Mode selection input 2.
57	SEL3	I	Mode selection input 3.
58	SEL4	I	Mode selection input 4. Code switch input for audio data output. 2's complement output when "L", offset binary output when "H".
59	SEL5	I	Mode selection input 5. Code switch input for audio data output. Serial output when "L", parallel output when "H".
60	APTR	O	Output for aperture compensation. "H" when R-ch.
61	APTL	O	Output for aperture compensation. "H" when L-ch.
62	C1F1	O	Monitor output reporting status of error correction for C1 decoder. When SEL5 = 'L', DA01 (LSB of parallel audio data) is output when SEL5 = 'H'.
63	C1F2	O	Monitor output reporting status of error correction for C1 decoder when SEL5 = 'L', DA02 is output when SEL5 = 'H'.

Pin No.	Symbol	I/O	Description
64	C2F1	O	Monitor output reporting status of error correction for C2 decoder when SEL5 = 'L', DA03 is output when SEL5 = 'H'.
65	C2F2	O	Monitor output reporting status of error correction for C2 decoder when SEL5 = 'L', DA04 is output when SEL5 = 'H'.
66	C2FL	O	When SEL5 = 'L', output of status condition. C2FL is set 'H' when the C2 sequence. Presently being corrected becomes impossible to correct. DA05 is output when SEL5 = 'H'.
67	C2PO	O	Display output of the C2 pointer when SEL5 = 'L', DA06 is output when SEL5 = 'H'.
68	XTFR	O	When SEL5 = 'L', output of read frame clock which is 7.35KHz of the crystal system. DA07 is output when SEL5 = 'H'.
69	PBFR	O	When SEL5 = 'L', output of write frame clock which is 7.35KHz when locked by the crystal system. DA08 is output when SEL5 = 'H'.
70	$\overline{\text{PBCK}}$	O	When SEL5 = 'L', output of VCO/2 (f = 4.3218MHz when locked by the EFM signal). DA09 is output when SEL5 = 'H'.
71	FSDW	O	When SEL5 = 'L', output for unprotected frame sync patterns. DA10 is output when SEL5 = 'H'.
72	ULKFS	O	Output for display of status of frame sync protection when SEL5 = 'L', DA11 is output when SEL5 = 'H'.
73	V_{DD}	—	Power supply (+ 5V).
74	$\overline{\text{JIT}}$	O	When SEL5 = 'L', output for display of either RAM overflow or underflow for +4 frame jitter absorption. DA12 is output when SEL5 = 'H'.
75	ZWDCK	O	When SEL5= 'L', output for strobe signal (352.8KHz when DF is ON, 176.4KHz when DF is OFF). DA13 is output when SEL5 = 'H'.
76	$\overline{\text{BLCK}}$	O	When SEL5 = 'L', inverse output of BLCK. DA14 is output when SEL5 = 'H'.
77	BLCK	O	When SEL5 = 'L', bit clock output (4.2336MHz when DF is ON, 2.1168MHz when DF is OFF) DA15 is output when SEL5 = 'H'.
78	DATA	O	Serial data output of audio signal when SEL5 = 'L'. DA16 is output when SEL5 = 'H'.
79	WDCK	O	Strobe signal output. Output is 176.4KHz when DF is on. Output is 88.2KHz when DF is off.
80	CHCK	O	Strobe signal output. Output is 88.2KHz when DF is on. Output is 44.1KHz when DF is off.

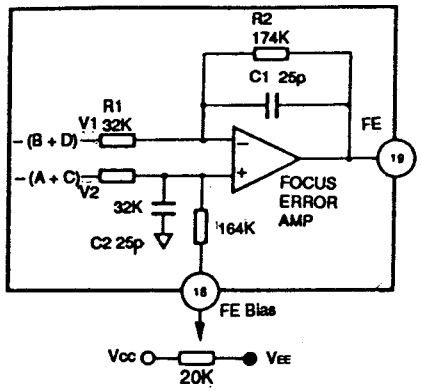
(2) RF AMPLIFIER (KA9201) :IC301



RF I-V AMP(1) and RF I-V AMP(2) are converted into voltage from current signal of PD1 (A + C) and PD2 (B + D) through the 58Kohm internal resistor. Furthermore, it is added in RF summing amplifier, this signal (A + B + C + D) is output at RFO (pin 2). The RF output voltage (low frequency) is as follow.

VRF = – R3* (iPD1 + iPD2)
= – R3* (V1/R1 + V2/R2)
= – 22K* (V1/10K + V2/10K)
= – 2.2* (V1 + V2)

(3) FOCUS ERROR AMPLIFIER (KA9201) : IC301



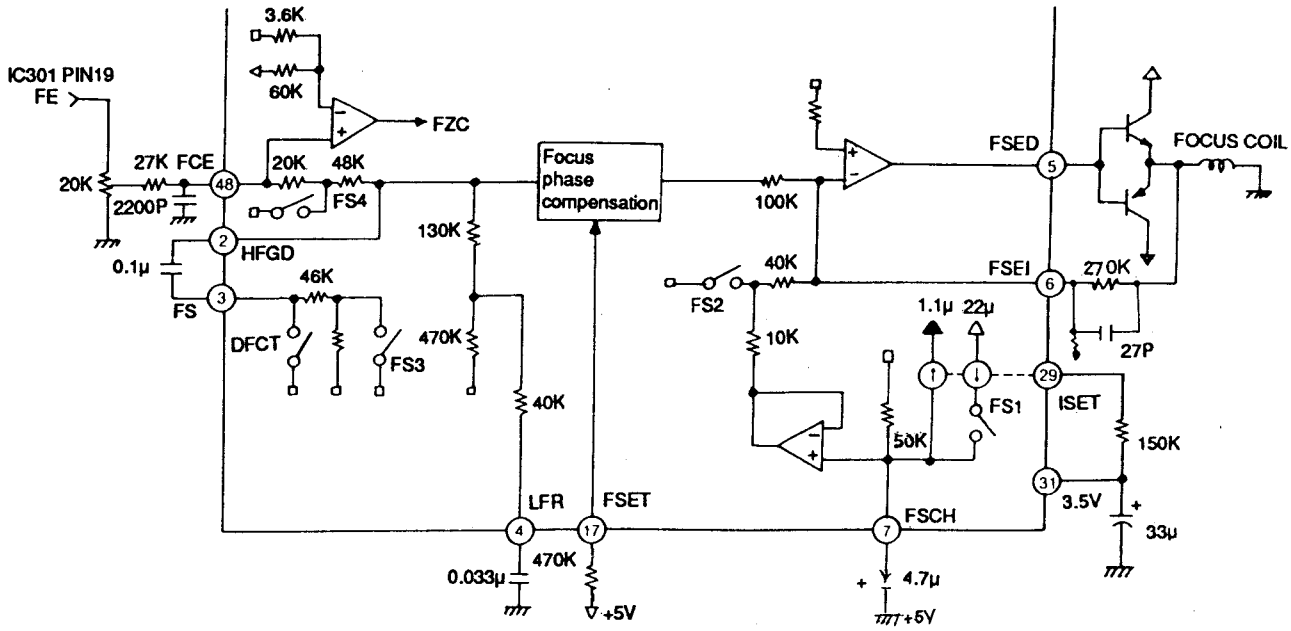
The Focus Error AMP is the difference between RF I-V AMP (1) output (A + C) and RF I-V AMP(2) output (B + D). This two [– (A + C), –(B + D)] signals are each applied to the (–) and (+) input of Focus Error AMP.
As the a result of differential voltage, Focus Error signal is appeared at FE pin (pin 19).
This FE output voltage (low frequency) become [(A + C) – (B + D)], as follow.

V_{FE} = R2/R1 x (V2–V1)
= 5.4 (V2 – V1)

The focus error voltage is directed to the focus servo circuit, to maintain optimum focusing at all times.

(4) FOCUS SERVO (KA830 9B) : IC201

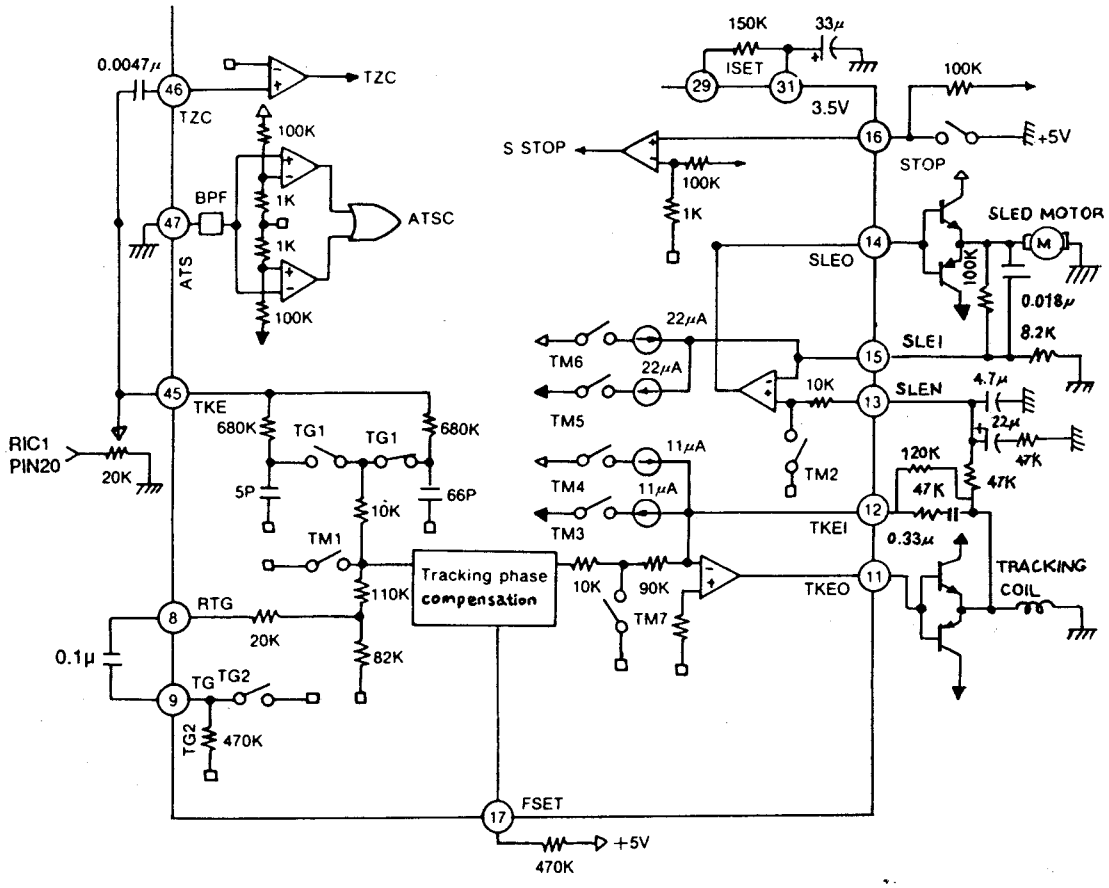
The below is a block diagram of the focus servo system.
When FS3 is switched on, the high frequency gain can be reduced by forming a low frequency time constant through a capacitor connected across pins 2 and 3 and the internal resistor.
The capacitor across the pin 4 and GND has a time constant to raise the low frequency usually playback condition.
The peak frequency of the focus phase compensation is inversely proportional to the resistor connected to pin 17 (about 1. 2KHz when the resistor is 470 k Ω).



The focus search peak becomes about ± 1.1 Vp-p with above constant. The peak is inversely proportional to the resistor connected across the pins 29 and 31. However, when this resistor is varied, the peaks of track jump and sled kick also vary.
The FZC comparator invert input is set to 5.7% of the difference between the reference voltage Vcc and Vc (Pin 1) : 5.7% x (Vcc – Vc).

(5) TRACKING SLED SERVO (KA830 9B) : IC201

The below is a block diagram of the tracking sled servo system.
The capacitor across pins 8 and 9 has a time constant to lower the high frequency when TG2 is switched off. The tracking phase compensation peak frequency is inversely proportional to the resistor connected to pin 17 (about 1.2KHz when the resistor is 470KΩ).
For a tracking jump in the FWD or REV direction, TM3 or TM4 are set to ON. At this time, the peak voltage fed to the tracking coil is determined by the TM3 and TM4 current values and the feedback resistor from pin 12. That is:
Track jump peak voltage = TM3 (TM4) current value x feedback resistor value



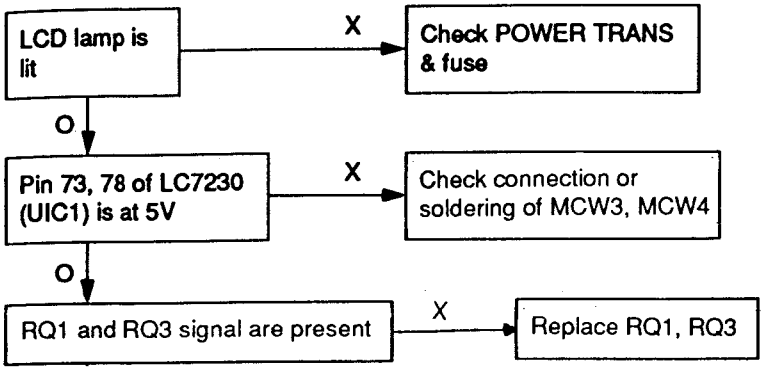
The FWD or REV sled kick is done by setting TM5 or TM6 ON. At this time, the peak voltage added to the sled motor is determined by the TM5 or TM6 current value and the feedback resistor from pin 15.
Sled jump peak voltage = TM5 (TM6) current value x feedback resistor value
Each SW current value is determined by the resistor connected to pins 29 and 31.
When the resistor is at about 150KΩ ,
TM3 or TM4 is + 11 μA and TM5 or TM6 is + 22 μA.
This current value is almost inversely proportional to the resistor, variable within a range of about 5 to 40 μA for TM3.
STOP is the ON/OFF detection signal for the limit SW or the sled motor's innermost circumference.

■ TROUBLE SHOOTING

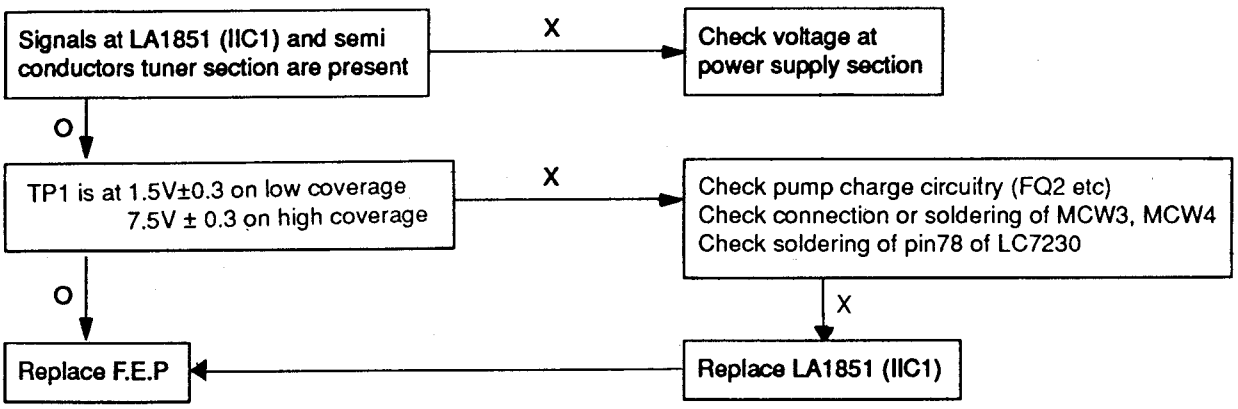
* O : Yes/Normal
  X : No/Abnormal

1. MAIN UNIT

1) POWER ON/OFF PROBLEM

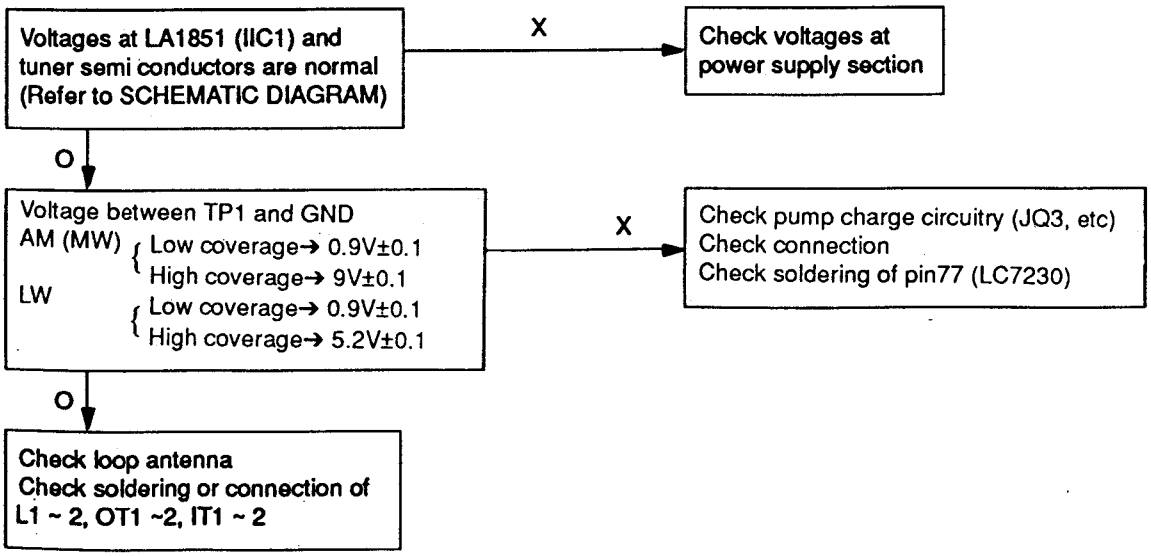


2) FM NO SOUND

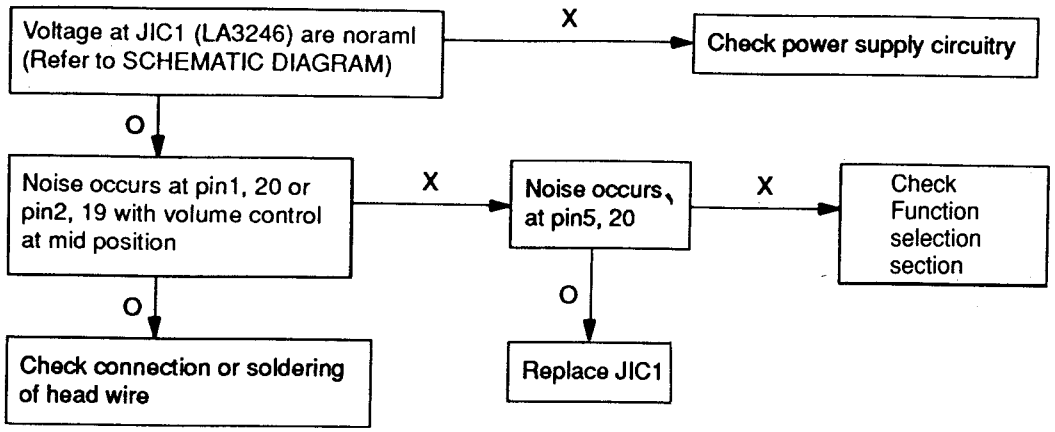

Signals at LA1851 (IIC1) and semi conductors tuner section are present
X
Check voltage at power supply section
O
TP1 is at 1.5V±0.3 on low coverage
7.5V ± 0.3 on high coverage
X
Check pump charge circuitry (FQ2 etc)
Check connection or soldering of MCW3, MCW4
Check soldering of pin78 of LC7230
O
X
Replace F.E.P
Replace LA1851 (IIC1)

* F.E.P : FRONT END PACK

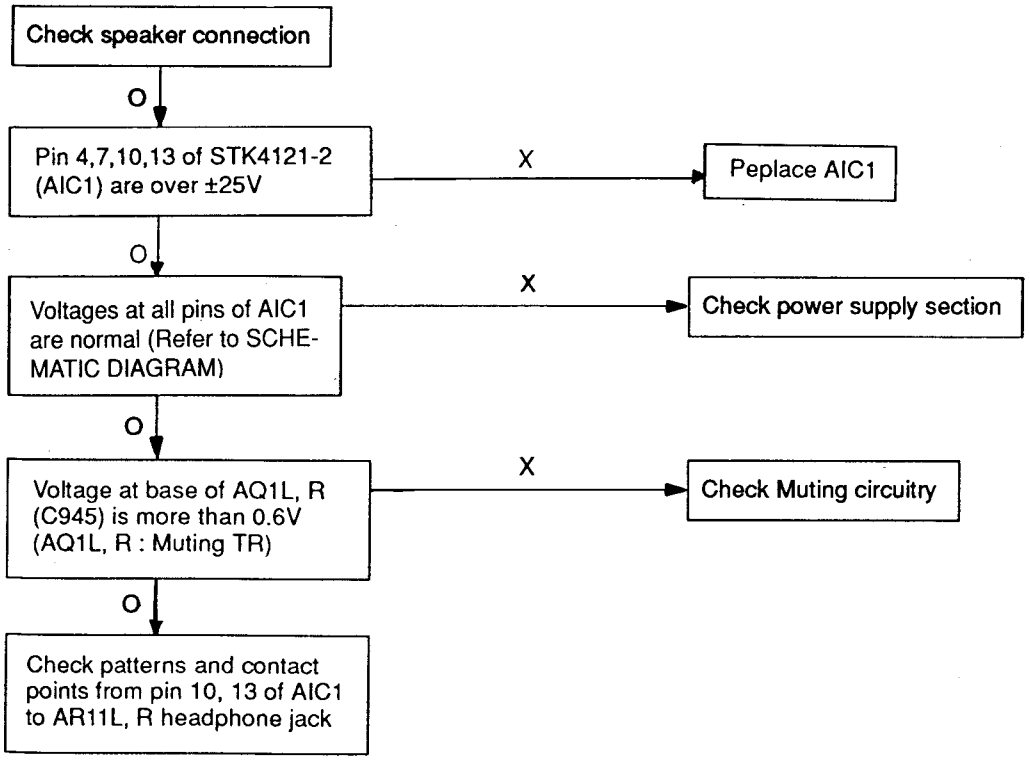
3) AM NO SOUND


Voltages at LA1851 (IIC1) and tuner semi conductors are normal (Refer to SCHEMATIC DIAGRAM)
X
Check voltages at power supply section
O
Voltage between TP1 and GND
AM (MW) { Low coverage→ 0.9V±0.1
High coverage→ 9V±0.1
LW { Low coverage→ 0.9V±0.1
High coverage→ 5.2V±0.1
X
Check pump charge circuitry (JQ3, etc)
Check connection
Check soldering of pin77 (LC7230)
O
Check loop antenna
Check soldering or connection of L1 ~ 2, OT1 ~2, IT1 ~ 2

4) TAPE NOT PLAYING


Voltage at JIC1 (LA3246) are noraml (Refer to SCHEMATIC DIAGRAM)
X
Check power supply circuitry
O
Noise occurs at pin1, 20 or pin2, 19 with volume control at mid position
X
Noise occurs at pin5, 20
X
Check Function selection section
O
O
Check connection or soldering of head wire
Replace JIC1

5) AUDIO OUTPUT PROBLEM

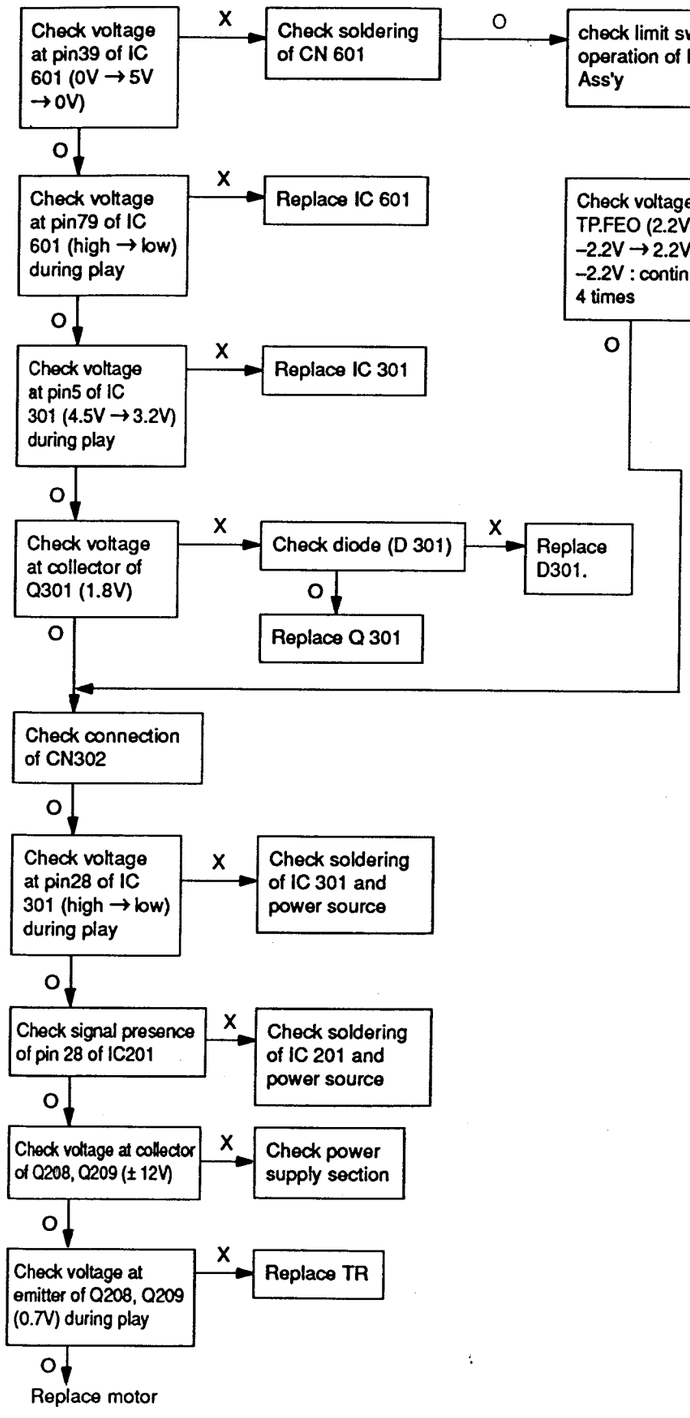

Check speaker connection
O
Pin 4,7,10,13 of STK4121-2 (AIC1) are over ±25V
X
Peplace AIC1
O
Voltages at all pins of AIC1 are normal (Refer to SCHEMATIC DIAGRAM)
X
Check power supply section
O
Voltage at base of AQ1L, R (C945) is more than 0.6V (AQ1L, R : Muting TR)
X
Check Muting circuitry
O
Check patterns and contact points from pin 10, 13 of AIC1 to AR11L, R headphone jack

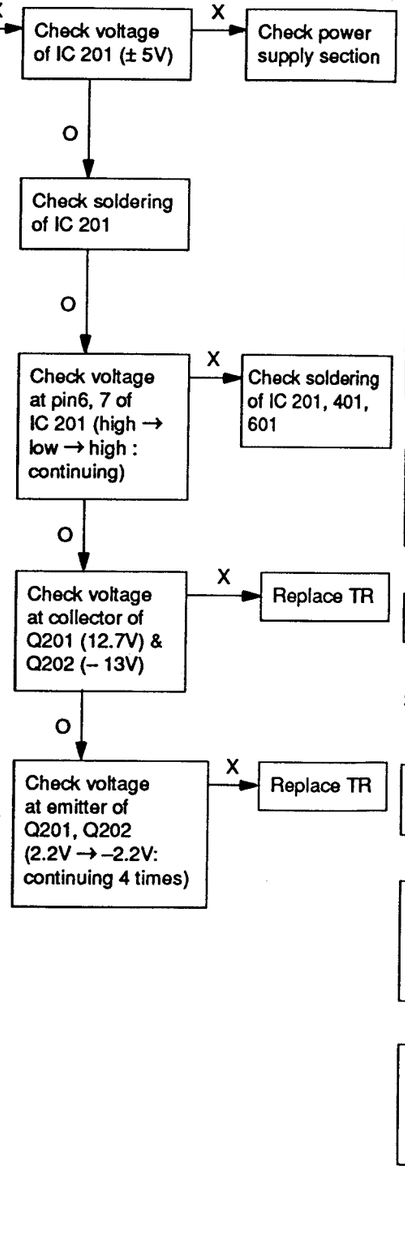
2. CD PLAYER

* Be sure not to use a warped or dirty disc in troubleshooting.

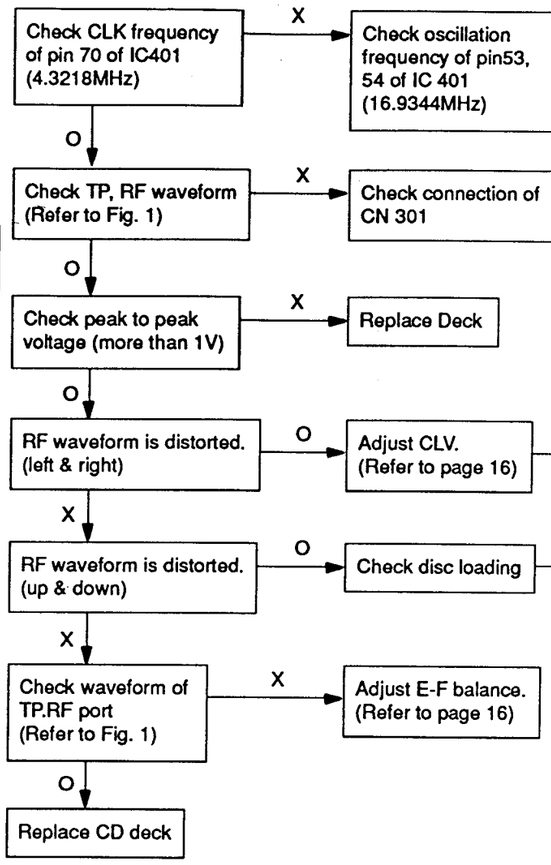
* O : Yes/Normal
X : No/Abnormal

1) DISC DOESN'T ROTATE

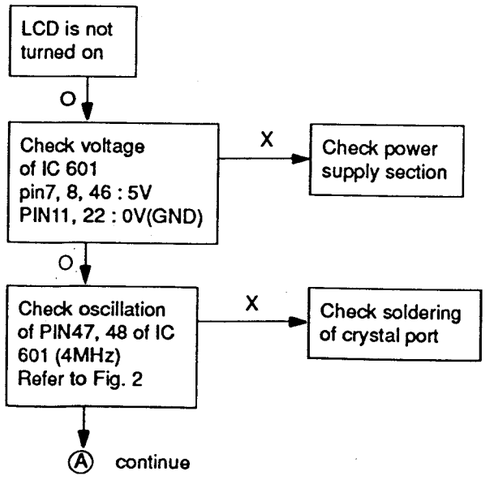



Check voltage of TP.FEO (2.2V → –2.2V → 2.2V → –2.2V : continuing 4 times
X
Check voltage of IC 201 (± 5V)
X
Check power supply section
O
Check soldering of IC 201
O
Check voltage at pin6, 7 of IC 201 (high → low → high : continuing)
X
Check soldering of IC 201, 401, 601
O
Check voltage at collector of Q201 (12.7V) & Q202 (– 13V)
X
Replace TR
O
Check voltage at emitter of Q201, Q202 (2.2V → –2.2V: continuing 4 times)
X
Replace TR

2) LEAD IN NOT WORKING



3) DISPLAY NOT WORKING


LCD is not turned on
O
Check voltage of IC 601 pin7, 8, 46 : 5V PIN11, 22 : 0V(GND)
X
Check power supply section
O
Check oscillation of PIN47, 48 of IC 601 (4MHz) Refer to Fig. 2
X
Check soldering of crystal port
Ⓐ continue

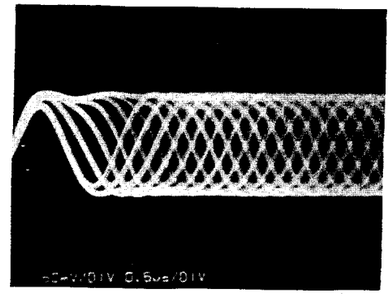


FIG. 1

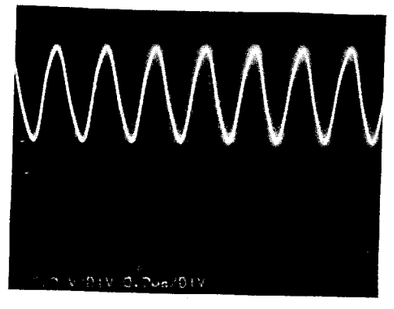


FIG. 2

Ⓐ

Check voltage at pin 64 of IC 601 (reset port) : + 5V → X → Check voltage at base of Q601 (–5V) → X → Check voltage at cathode of D606 : AC 10V ± 10V → X → Check pattern and soldering

Check voltage at base of Q601 (–5V) → O → Replace Q 601

Check voltage at cathode of D606 : AC 10V ± 10V → O → Replace D606

Check voltage at pin 64 of IC 601 (reset port) : + 5V → O → Check soldering of pin 7 ~ 10 of IC 601 → O → Check waveform of pin 3 ~ 5 of IC 601 (Refer to Fig. 3) Check soldering of pin 51 ~ 74 of IC 601 → Replace IC 601

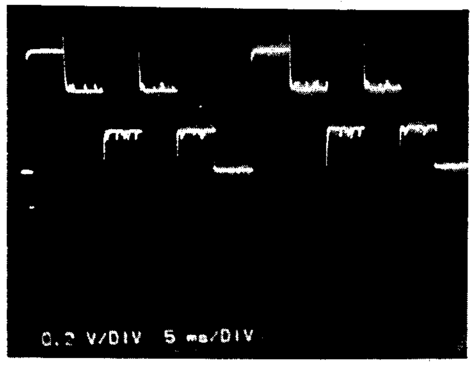


FIG. 3

4) SOUND NO OUTPUT

Check audio output → X → Check waveform of IC 501 (PIN 8). see picture Fig. 4. → X → Check IC 501 power source. → Check IC 501 pin short. → back to the O branch below

Check waveform of IC 501 (PIN 8). see picture Fig. 4. → O → Check signal presence of IC 501 (pin1, 20)

Check signal presence of IC 501 (pin1, 20) → O → Check signal presence of IC 502 (pin 2, 8) → X → Check IC 502 soldering and power source → Replace IC 502.

Check signal presence of IC 501 (pin1, 20) → X → Replace IC 501.

Check signal presence of IC 502 (pin 2, 8) → O → Check signal presence. (LINE OUT) → X → Check MUTE section.

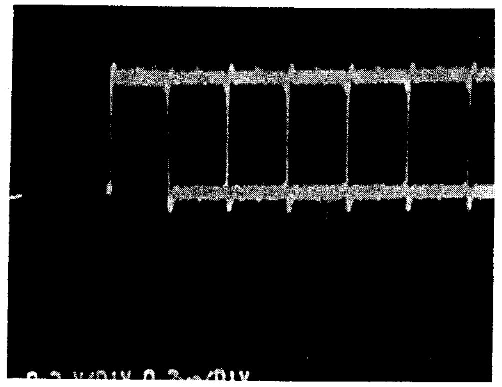


FIG. 4

■ ADJUSTMENT

Adjustments to this unit have already been made during production procedure.
Therefore, no adjustment is needed. If readjustment is reguired, proceed with adjustments in the order given below.

1. TUNER

1) MEASURING INSTRUMENTS REQUIRED

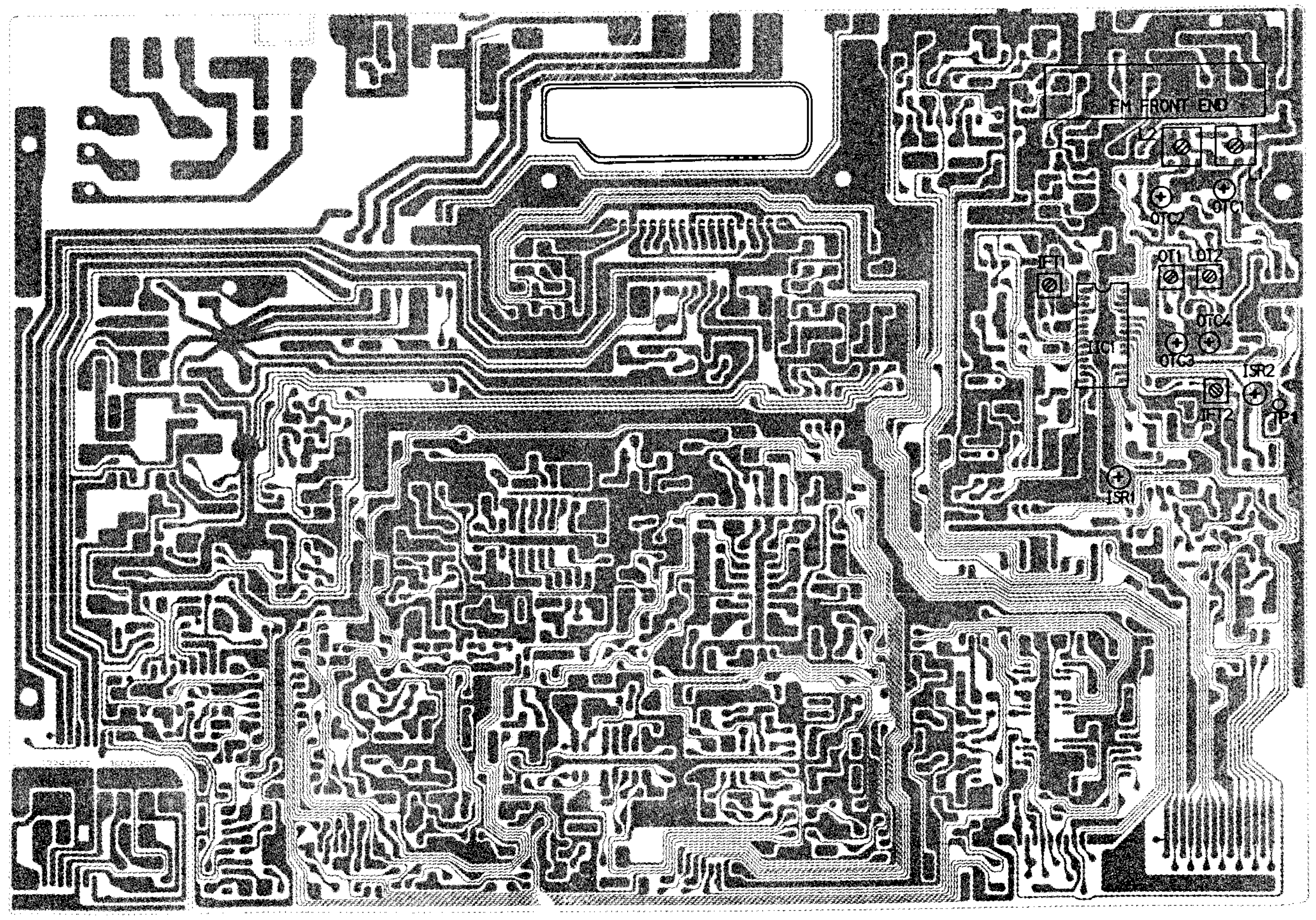
(1) AM standard signal generator (S.S.G)
: 400Hz, 30% MOD.
(2) FM standard signal generator
: output impedance 75Ω
1KHz, 40KHz DEV.
(3) Oscilloscope
(4) VTVM (5) Frequency counter
(6) Loop antenna
(7) Dummy (75Ω)
(8) DC voltmeter

2) IMPORTANT

(1) Check the power source voltage.
(2) Set function and band switches to a band to be aligned.
(3) The equalizer, volume and balance control should be turned to the mid position.

3) LOCATION OF ADJUSTMENT POINTS (PARTS SIDE)

MAIN PCB



4). ADJUSTMENT PROCEDURE

(1) FM ADJUSTMENT

STEP	ITEM	CONNECTION	SSG FREQ.	FREQ. SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	IF CENTER & T.H.D adjustment.	FIG. 1	98MHz	98MHz	IFT 1	Minimum distortion
2	Auto search level adjustment	FIG. 2	98MHz	98MHz	ISR 2	STEREO LED ON
3	FM stereo separation adjustment	FIG. 3	98MHz	98MHz	ISR 1	If L-CH is input, R-CH should be minimum and visa-versa.

* High coverage and tracking adjustment are not required.

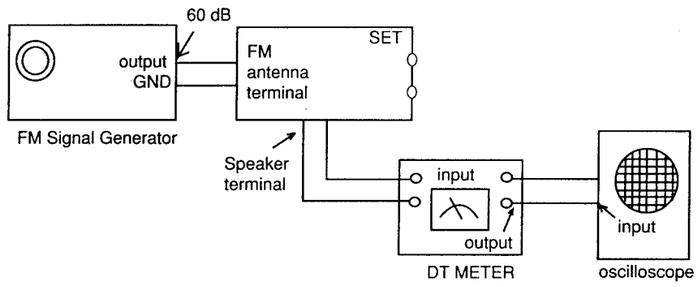


FIG. 1) IF CENTER AND T.H.D

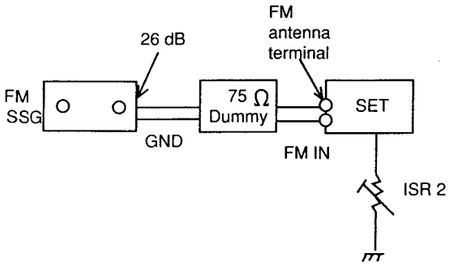


FIG. 2) AUTO SEARCH LEVEL

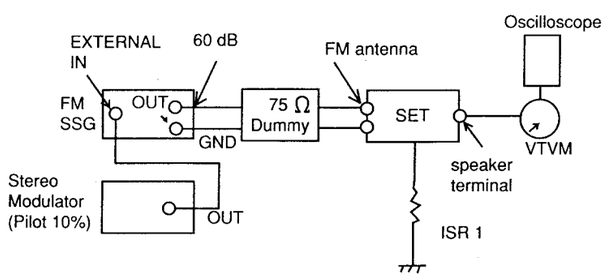


FIG. 3) FM STEREO SEPARATION

(2) AM ADJUSTMENT

① 2 BAND (FM/AM)

STEP	ITEM	CONNECTION	SSG FREQ.	FREQ. SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	Intermidiate frequency (IF) adjustment	FIG. 4	522KHz	522KHz	IFT2	Maximum output
2	AM frequency coverage adjustment	Connect DC voltmeter to TP1 and GND.	—	522KHz	OT 1	0.9V
3			—	1404KHz	OTC 1	9V
4	Repeat step 2 and 3 several times.					
5	AM tracking adjustment.	FIG. 4	594KHz	594KHz	L 1	Maximum output.
6			1404KHz	1404KHz	OTC 1	Maximum output.
7	Repeat step 5 and 6 several times.					

② 3 BAND (FM/MW/LW) * MW band : Refer to 2 band section. (MW → AM)

STEP	ITEM	CONNECTION	SSG FREQ.	FREQ. SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	LW frequency coverage adjustment	FIG. 4		146KHz	OT 2	0.9V
2				290KHz	OTC 3	5.2V
3	Repeat step 1 and 2					
4	LW tracking adjustment.	FIG. 4	155KHz	155KHz	L 2	Maximum output.
5			270KHz	170KHz	OTC 2	Maximum output.
6	Repeat step 5 and 6 several times.					

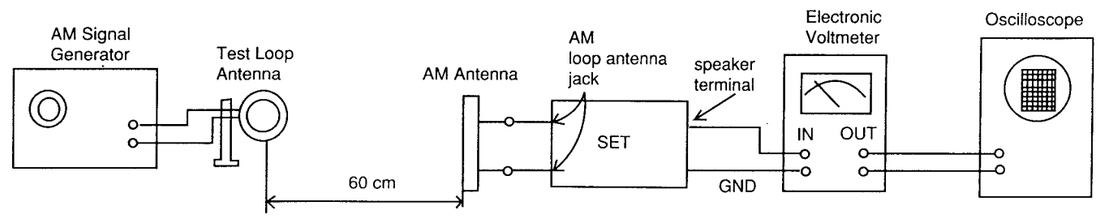


FIG. 4) AM TRACKING

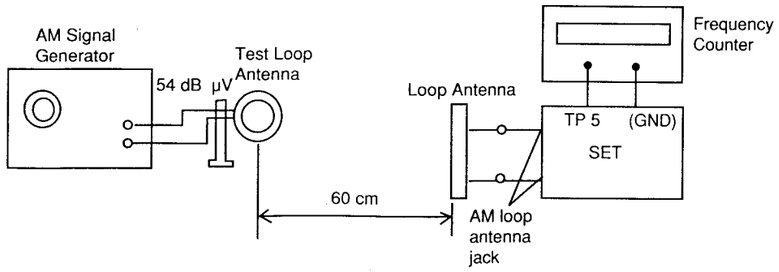


FIG. 5) CLUCK adjustment

2 . CD PLAYER

1. MEASURING INSTRUMENT

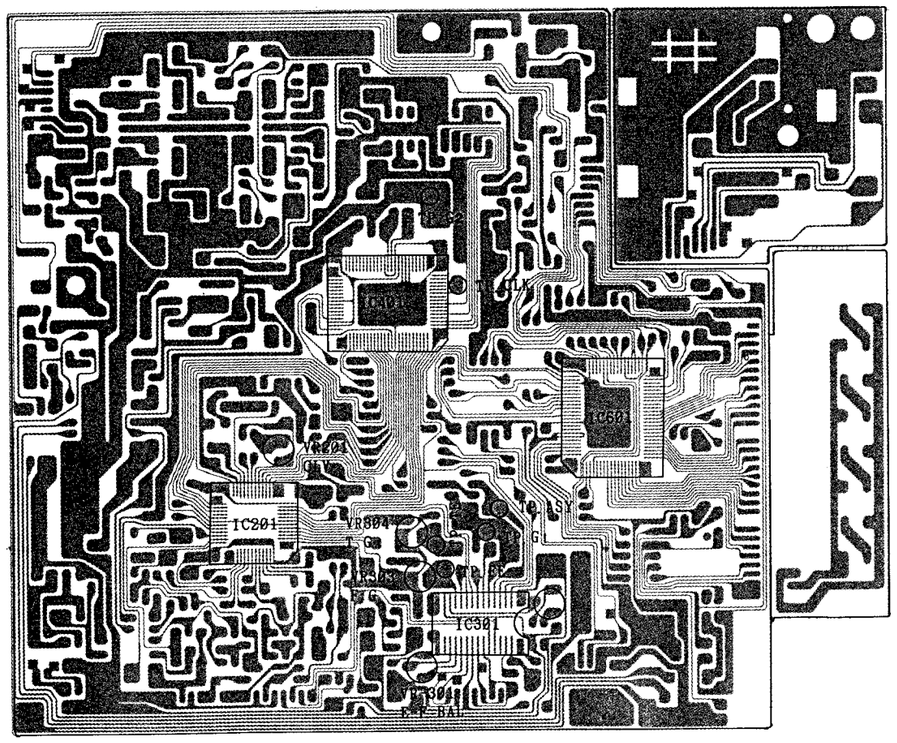
1) Oscilloscope (100MHz≧Frequency)
2) Probe (10 : 1)
3) Frequency counter

2. IMPORTANT

1) Semi-Volume position can be a little different according to unit.
2) Be sure not to use a warped or dirt-build up disc in adjusting.
3) When adjusting Semi-Volume, use plastic screw driver.

3. LOCATION OF ADJUSTMENT (PARTS SIDE)

CD PCB

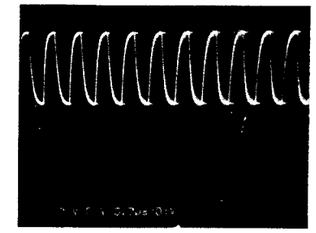


VR201	:	CLV adjustment	TP.FE	:	To oscilloscope signal port
VR301	:	E-F balance adjustment	TP.TE	:	To oscilloscope signal port
VR303	:	Focus gain adjustment	TP. CLK	:	To oscilloscope signal port
VR302	:	Focus bias adjustment	TP.G1	:	To oscilloscope GND port
VR304	:	Tracking gain adjustment	TP.G2	:	To oscilloscope GND port

4. ADJUSTMENT PROCEDURE

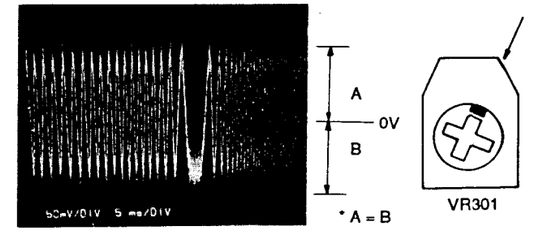
1) CLV ADJUSTMENT
   (1) Turn power on and load a disc.
   (2) Frequency counter connection
   (+) terminal ; TP. CLK
   (–) terminal ; TP. G2
   (3) Connect TP.ASY to TP. G1
   (4) Adjust VR201 so the frequency counter reads 4.38 ~ 4.40MHz. (Adjust in stop mode)
   (5) Disconnect TP.ASY from TP.G1

CLV



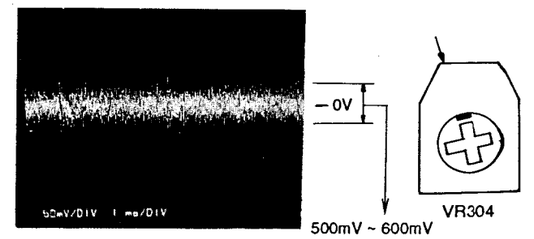
2) E-F BALANCE ADJUSTMENT
   (1) Turn power on and load a disc.
   (2) Press play.
   (3) Oscilloscope setting and connection
   VOLT/DIV ; 50mV (+) terminal ; TP.TE
   TIME/DIV ; 5mS (–) terminal ; TP. GI
   (4) Adjust VR304 fully counter clockwise
   (5) Adjust VR301 so the waveform is as shown in the picture.
   (6) Set VR304 back to the place it was before adjustment.

E-F BALANCE



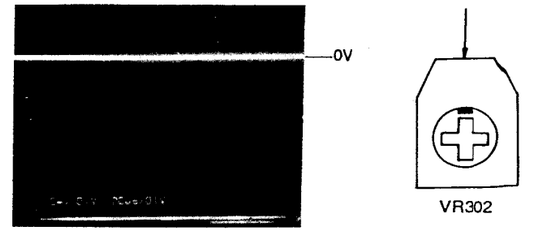
3) TRACKING GAIN ADJUSTMENT
   (1) Turn power on and load a disc.
   (2) Press play.
   (3) Oscilloscope setting and connection
   VOLT/DIV ; 50mV (+) terminal ; TP.TE
   TIME/DIV ; 1mS (–) terminal ; TP. GI
   (4) Adjust VR304 so the peak to peak waveform is as shown in the picture.

TRACKING GAIN



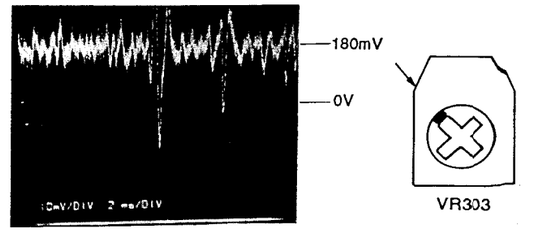
4) FOCUS BIAS ADJUSTMENT
   (1) Turn power on and load a disc.
   (2) Oscilloscope setting and connection
   VOLT/DIV ; 10mV (+) terminal ; TP.FE
   TIME/DIV ; 20 μS (–) terminal ; TP. GI
   (3) Adjust VR302 so the waveform is as shown in picture. (Adjust in stop mode)

FOCUS BIAS



5) FOCUS GAIN ADJUSTMENT
   (1) Turn power on and load a disc.
   (2) Press play.
   (3) Oscilloscope setting and connection
   VOLT/DIV ; 10mV (+) terminal ; TP.FE
   TIME/DIV ; 2mS (–) terminal ; TP. GI
   (4) Adjust VR303 so the peak to peak waveform is as shown in the picture.

FOCUS GAIN



(Pictures taken in 10 : 1 probe)

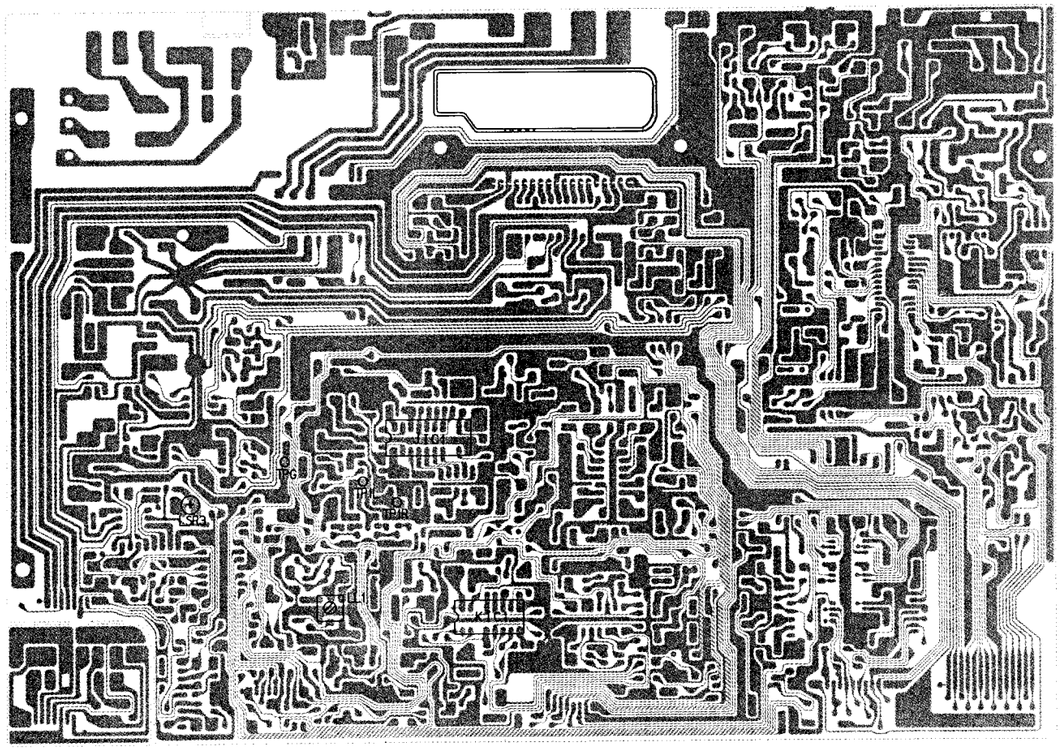
3. TAPE RECORDER

1) MEASURING INSTRUMENTS REQUIRED

(1) Oscilloscope
(2) VTVM
(3) TAPE
① MTT-111 (or equivalent) : 3KHz signal is recorded → tape speed
② MTT-5521 (or equivalent)
③ MTT-114NA (or equivalent) : 12.5KHz signal is recorded. → Azimuth

2) LOCATION OF ADJUSTMENT POINTS (PARTS SIDE)

MAIN PCB



3) ADJUSTMENT PROCEDURE

(1) TAPE SPEED

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Normal sped adjustment	FIG. 1	Insert MTT-111 to DECK B. Press PLAY button.	LSR 3	3KHz

(2) PLAY LEVEL

① DECK A

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	AZIMUTH	FIG. 2	Play MTT-114NA in the DECK A.	FIG. 3	Maximum output and same phase of L,R-CH Fix the screw.

② DECK B

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	AZIMUTH	FIG. 2	Play MTT-114NA in the DECK B.	FIG. 3	Maximum output and same phase of L,R-CH Fix the screw.

(3) RECORD ADJUSTMENT

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Bias oscillation frequency	FIG. 4 (TP-1L : L-CH, TP1R : R-CH, TPG : GND)	Record MTT-5521 in the DECK A	LL 1	105KHz

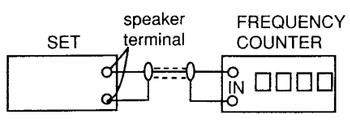


FIG.1

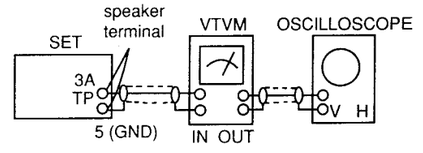


FIG.2

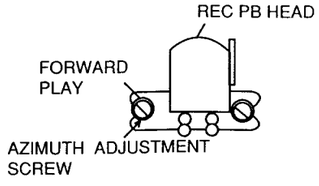


FIG.3

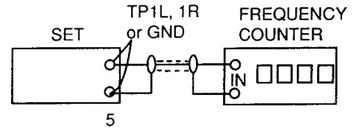
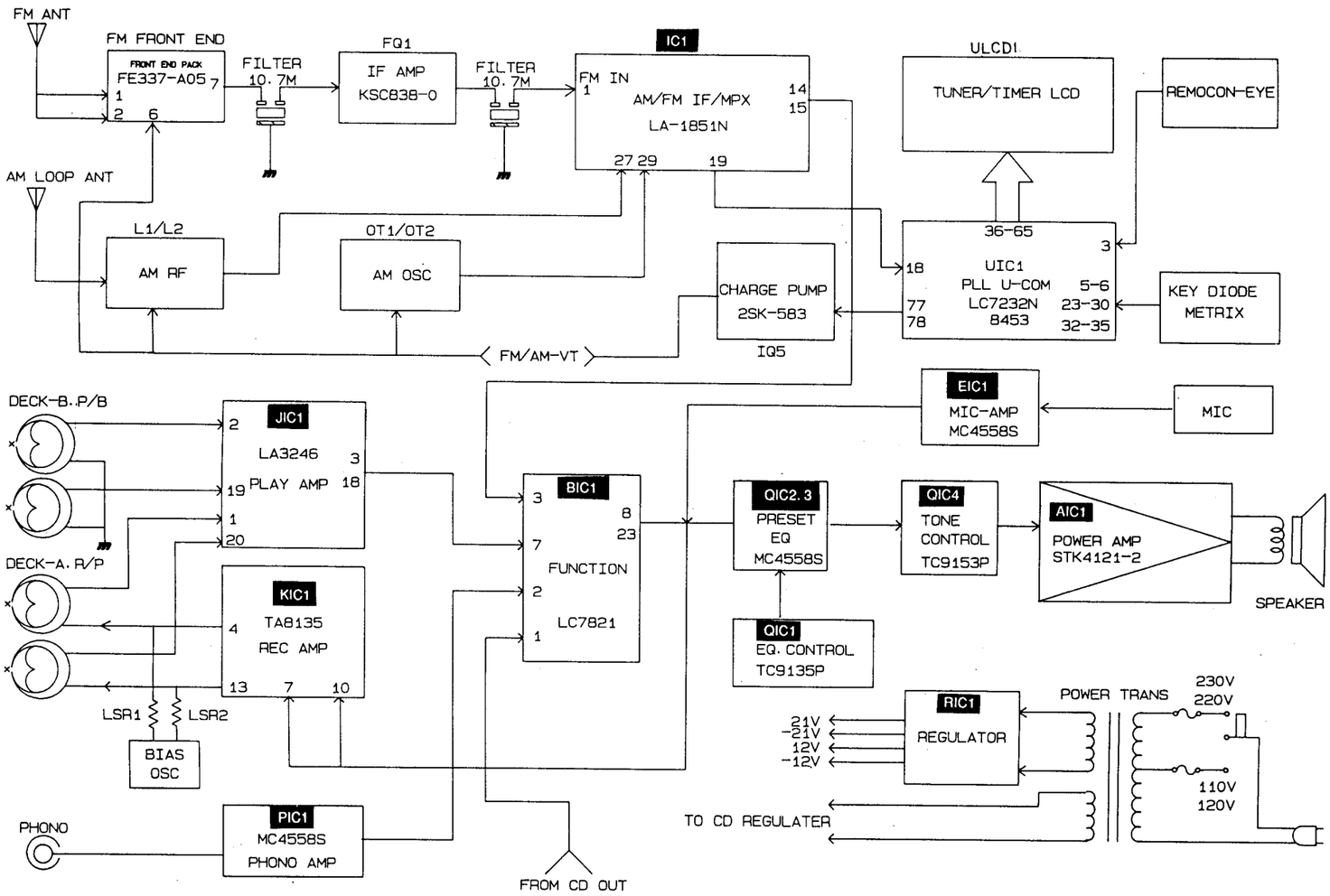


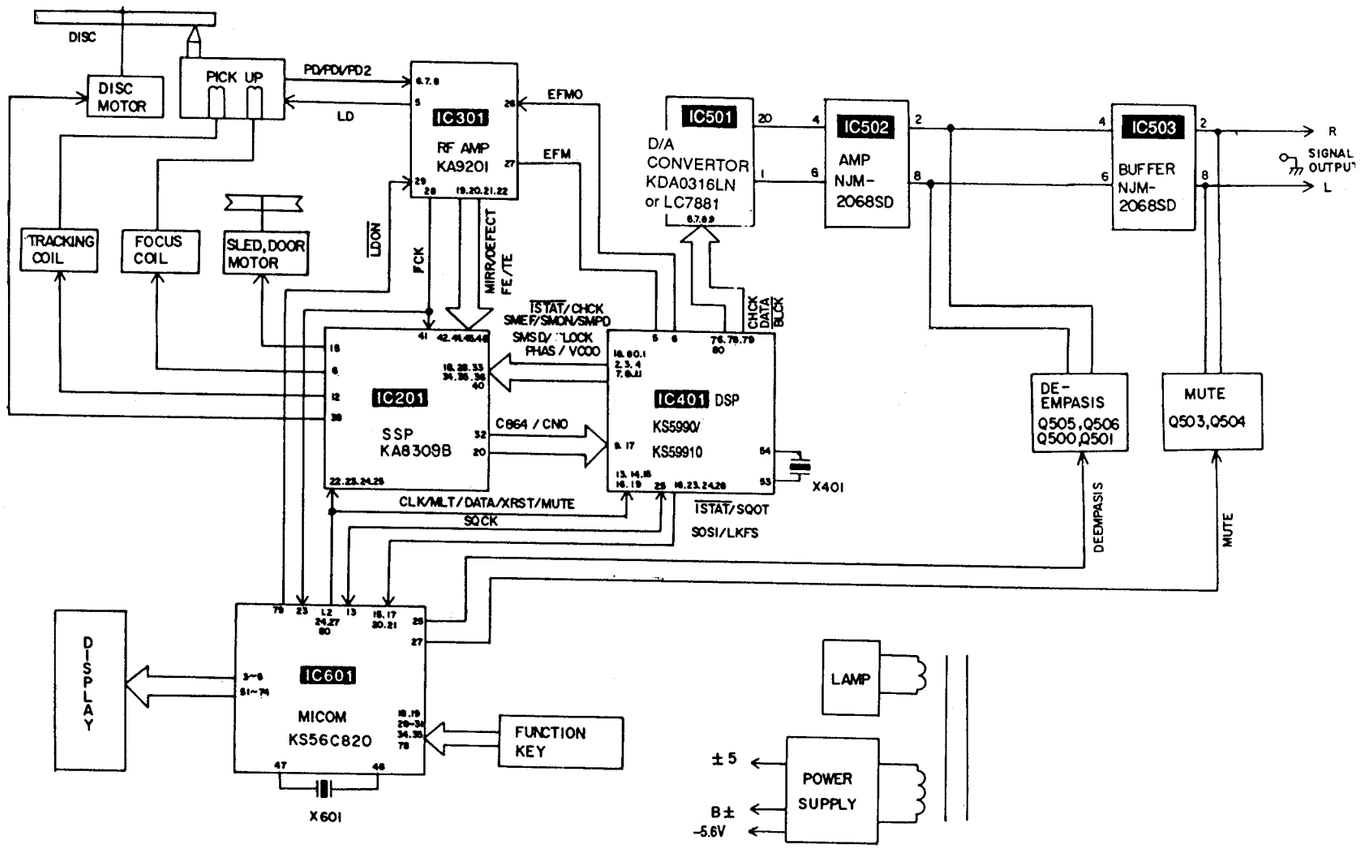
FIG.4

■ BLOCK DIAGRAM

1. MAIN SECTION



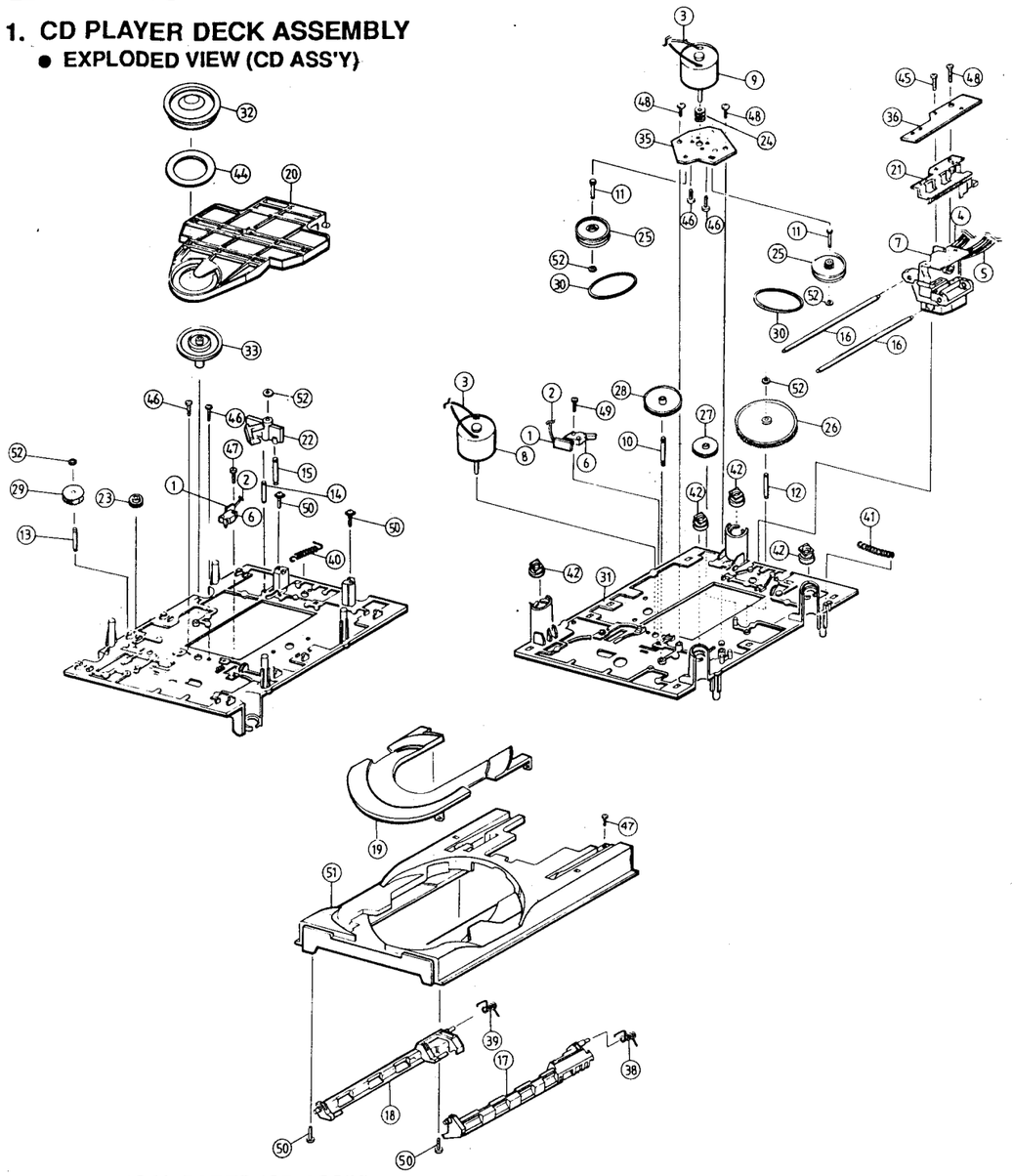
2. CD PLAYER SECTION



■ EXPLODED VIEW

1. CD PLAYER DECK ASSEMBLY

● EXPLODED VIEW (CD ASS'Y)



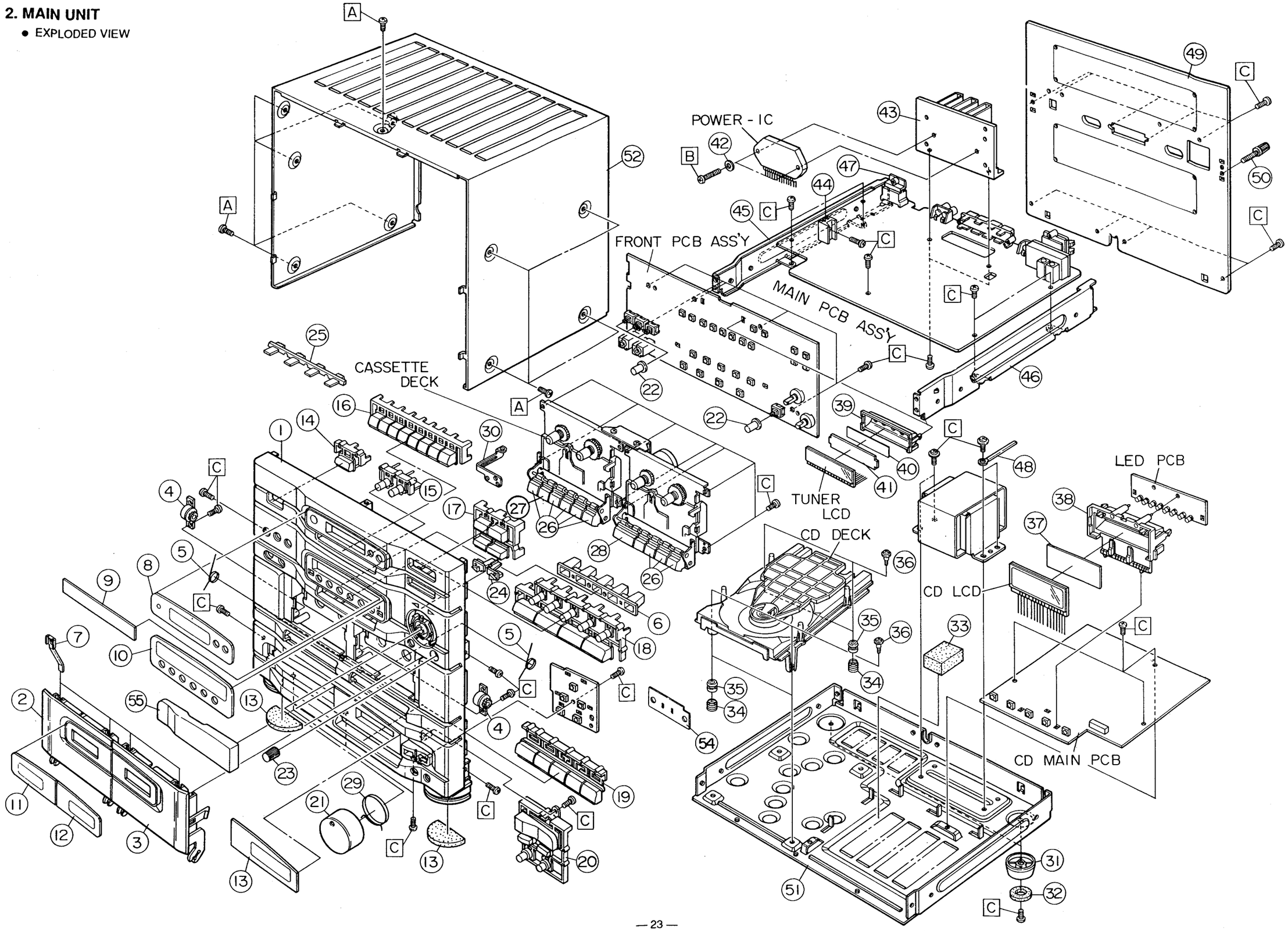
● MECHANICAL PARTS (CD ASS'Y)

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
	14929-421-010	DECK-CD(DRAW) ; CMS-55/A	1	
1	13014-582-500	PCB-MICRO SW ; IVO	2	
2	13029-041-130	CONNECTOR ; 4PIN(SW)	1	
3	13029-041-230	CONNECTOR ;4PIN(MOTOR)	1	
4	13052-901-040	CONNECTOR ; 8PIN(SHIELD)	1	
5	13079-618-125	CONNECTOR ; 8PIN	1	
6	13579-901-010	MICRO-S/W;SSCTL1217A	2	
7	14239-101-110	SAMSUNG OPTICAL HEAD ; SOH89T1	1	
8	14769-057-240	MOTOR-SPINDLE ; RF-310T(SHAFT 18.9)	1	
9	14769-057-250	MOTOR-FEED ; RF-310T(SHAFT 10.9)	1	
10	15104-531-010	SHAFT-GEAR(C) ; SUM24L(SERRATION)SCM7550	1	
11	15104-531-110	SHAFT-GEAR(D) ; SUM24L SCM7550L	2	
12	15104-531-210	SHAFT-GEAR(A) ; SUM24L SCM7550L	1	
13	15104-531-220	SHAFT-GEAR(B) ; SUM24L SCM7550L	1	
14	15104-531-310	SHAFT-LEVER(A) ; SUM24L SCM7550	1	
15	15104-531-410	SHAFT-LEVER(B) ; SUM24L SCM7550	1	
16	15104-531-510	SHAFT-PU ; SUS 420J2 SCM7550	2	
17	15252-501-110	LEVER-LIFTER(R) ; P.B.T G15% SCM7550	1	
18	15252-501-210	LEVER-LIFTER(L) ; P.B.T G15% SCM7550	1	
19	15252-501-310	LIFTER-DISC ; ABS BLK SCM7550	1	
20	15252-501-410	COVER-DISC ; P.B.T G15% SCM7550	1	
21	15253-503-310	GUIDE-PU ; P.O.M SCM7550	1	
22	15253-503-410	LEVER-MAIN ; P.O.M SCM7550	1	
23	15254-509-110	GEAR-DOOR SLIDING(A) ; P.A NTR SCM7550	1	
24	15254-513-610	GEAR-MOTOR ; P.O.M SCM7550	1	
25	15254-513-710	GEAR-PU(A) ; P.O.M SCM7550	2	
26	15254-513-810	GEAR-PU(B) ; P.O.M SCM7550	1	
27	15254-513-910	GEAR-PU(C) ; P.O.M SCM7550	1	
28	15254-514-010	GEAR-DOOR(A) ; P.O.M SCM7550	1	
29	15254-514-310	GEAR-DOOR(C) ; P.O.M SCM7550	1	
30	15274-501-520	BELT-MOTOR ; NEOPLENE 1.2T SCM7550	2	
31	16021-504-710	BRKT MAIN(M) ; E. G T1.6+POM SCM7550	1	
32	16604-538-310	PLATE CHUCK ; P.O.M SCM7550	1	
33	16604-538-410	TURN-TABLE ; P.C G20% SCM7550	1	
35	16624-571-410	BRKT-MOTOR ; EG 1.2T SCM7550	1	
36	16624-571-910	BRKT-P/U ; SECC 1.0T SCM7550	1	
38	16674-560-510	SPRING-LIFTER R ; STSW #27 SCM7550	1	
39	16674-560-610	SPRING-LIFTER L ; STSW #27 SCM7550	1	
40	16674-560-710	SPRING-COVER ; STSW #27 SCM7550	1	
41	16674-560-810	SPRING-LEVER ; STSW #27 SCM7550	1	
42	16804-517-820	RUBBER-DECK ; BUTYL SCM7550	4	
44	16844-520-210	SHEET-CHUCK ; HYMERON T0.5 SCM7550	1	
45	17008-120-063	SCREW-PH ; +M2X6 FE FZB DT-850	1	
46	17098-120-032	SCREW-BH ; +M2X3 FE FZW	4	
47	17108-520-063	SCREW-TAP PH ; 2S-2X6 FE FZB	1	
48	17148-526-081	SCREW-TAP, RH ; 2S-2.6X8 FE FZY	3	
49	17158-220-103	SCREW-TAP, BH ; 2-2X10 FE FZB	2	
50	17558-230-081	SCREW-TAP TITE SPEC ; S-3 X 8FZY	4	
51	17641-500-810	DOOR-DISC ; ABS BLK SCM7550	1	
52	18314-500-810	RING-O ; POLY SLIDER PI1.2 SCM7550	5	

* Parts which are not discribed in the CD DECK list are not serviceable.
If you need any other parts except those described, apply CD DECK ass'y.

2. MAIN UNIT

- EXPLODED VIEW



● MECHANICAL PARTS (MAIN)

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
1	12000-0053-00	CABINET - FRONT ; MIPS BLK	1	OPTIONAL
	12000-0053-01	CABINET - FRONT : MIPS BLK SECA	1	OPTIONAL
	12000-0053-02	CABINET - FRONT : MIPS BLK QUELLE	1	OPTIONAL
	12000-0053-03	CABINET - FRONT : MIPS BLK VIP - 8100	1	OPTIONAL
	12000-0053-04	CABINET - FRONT : MIPS BLK VIP - 8150	1	OPTIONAL
2	14042-0025-00	DOOR - CASS,A ; ABS BLK	1	
3	14042-0026-00	DOOR - CASS,B ; ABS BLK	1	
4	15214-506-011	DAMPER - GEAR ; POM PD790	2	
5	16674-568-910	SPRING - DOOR ; SUS PI0.9	2	
6	13324-0038-00	HOLDER - LED, SOU ; ABS WHT	1	
7	16674-518-510	SPRING - TAPE ; SUS T0.35	4	
8	14073-0048-00	WINDOW - T/LCD ; PC T0.7	1	
9	14074-0050-00	WINDOW - SOUND ; PC T0.7	1	
10	14073-0049-00	WINDOW - FUNCTION ; PC T0.7	1	
11	14073-0052-00	WINDOW - DOOR, A ; PC T0.7	1	
12	14073-0053-00	WINDOW - DOOR, B ; PC T0.7	1	
13	16174-504-210	CUSHION - FOOT ; RUBBER SPONGE	2	
14	14084-0125-00	KNOB - POWER ; ABS BLK	1	
15	14084-0133-00	KNOB - MEMORY ; ABS BLK	1	
16	14082-0126-00	KNOB - PRESET ; ABS BLK	1	
17	14082-0127-00	KNOB - TUNER ; ABS BLK	1	
18	14081-0139-00	KNOB - FUNCTION ; ABS BLK	1	
19	14082-0138-00	KNOB - CD, FUNC ; ABS BLK	1	
20	14081-0141-00	KNOB- CD,PLAY ; ABS BLK	1	
21	14084-0130-00	KNOB- VOLUME ; ABS BLK	1	
22	14084-0128-00	KNOB- PUSH ; ABS BLK	4	
23	14083-0140-00	KNOB-BALANCE ; ABS BLK	1	
24	12714-0007-00	LENS - VOLUME ; ACRYL MILK	1	
25	12713-0006-00	LENS - FUNCTION ; ACRYL MILK	1	
26	14083-0020-00	KNOB-DECK (M) ; ABS BLK	9	
27	14083-0199-00	KNOB-DECK (S) ; ABS BLK	1	
28	14083-0198-00	KNOB-DECK (L) ; ABS BLK	1	
29	12724-0028-00	SPRING - VOLUME ; CS PWR PI0.7	1	
30	16623-620-810	BRK - PCB ; SBHG T1.0	1	
31	16074-503-010	HOLDER - FOOT ; MIPS BLK	2	
32	16804-521-710	FOOT - CONTACT ; EVA RUBBER	2	
33	16834-502-010	SPACER ; RUBBER SPONGE	1	
34	16674-570-320	SPRING - DECK (B) ; STSW #27	4	
35	16804-517-820	RUBBER - DECK ; BUTYL RUBBER	4	
36	17094-504-310	SCREW - STUD (B) ; TAP 2S-3*8	4	
37	17654-571-810	FILTER - CD, LCD ; PC 0.5T MILK	1	
38	13321-0026-00	HOLDER - CD, LCD ; ABS WHT	1	
39	13323-0031-00	HOLDER -T/LCD ; ABS WHT	1	
40	17654-574-010	FILTER - TUNER, B ; DIAMET 0.125T	1	
41	17654-571-710	FILTER - TUNER ; PC 0.5T MILK	1	
42	16854-100-610	SPACER - RING ; FIBER	2	
43	15009-510-870	HEAT - SINK ASS'Y ; ALS 20W 7850	1	
44	15684-507-610	HEAT SINK TR ; AL EXTR 30MM	1	
45	12202-0023-00	FRAME - L ; SECC 0.8T	1	
46	12202-0024-00	FRAME -R ; SECC 0.8T	1	
47	13323-0032-00	HOLDER - VOLTAGE ; MIPS BLK	1	
48	16634-515-110	CLAMPER - WIRE ; DALB - 2	1	
49	13311-0023-00	COVER - REAR ; H/BOARD 3.2T	1	OPTIONAL
	13311-0023-01	COVER - REAR : H/BOARD 3.2T FM/MW/LW 1VOL.	1	OPTIONAL
	13311-0023-02	COVER - REAR : H/BOARD 3.2T FM/MW/LW 75Ω	1	OPTIONAL
	13311-0023-03	COVER - REAR : H/BOARD 3.2T FM/AM 1 VOL.	1	OPTIONAL
	13311-0023-04	COVER - REAR : H/BOARD 3.2T FM/AM 2 VOL VIP-8100	1	OPTIONAL
	13311-0023-05	COVER - REAR : H/BOARD 3.2T FM/MW/LW 1VOL. FTZ	1	OPTIONAL
	13311-0023-06	COVER - REAR : H/BOARD 3.2T FM/AM VIP-8100	1	OPTIONAL
	13311-0023-07	COVER - REAR : H/BOARD 3.2T FM/AM 1VOL 75	1	OPTIONAL
	13311-0023-08	COVER - REAR : H/BOARD 3.2T UKW/MW/LW 1VOL.	1	OPTIONAL

NO	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
50	13014-501-630	TERMINAL - SCREW ; SPC - 1+ABS BLK	1	
51	12001-0036-00	CABINET - BOTTOM ; SECC 0.8T	1	
52	12000-0035-00	CABINET - TOP ; VINYL STEEL 0.	1	
54	13314-0048-00	COVER - KNOB ; VINYL 0.2T BLK	1	
55	14042-0027-00	COOR - CD ; ABS BLK SPRAY	1	
A	17458-230-083	S-TAP TITE BH ; B - 3*8 FE FZB	10	
B	17448-130-201	S-TAP TITE BH ; B - 3*20 FE FZY	2	
C	17458-230-101	S-TAP TITE BH ; B - 3*10 FE FZY	44	

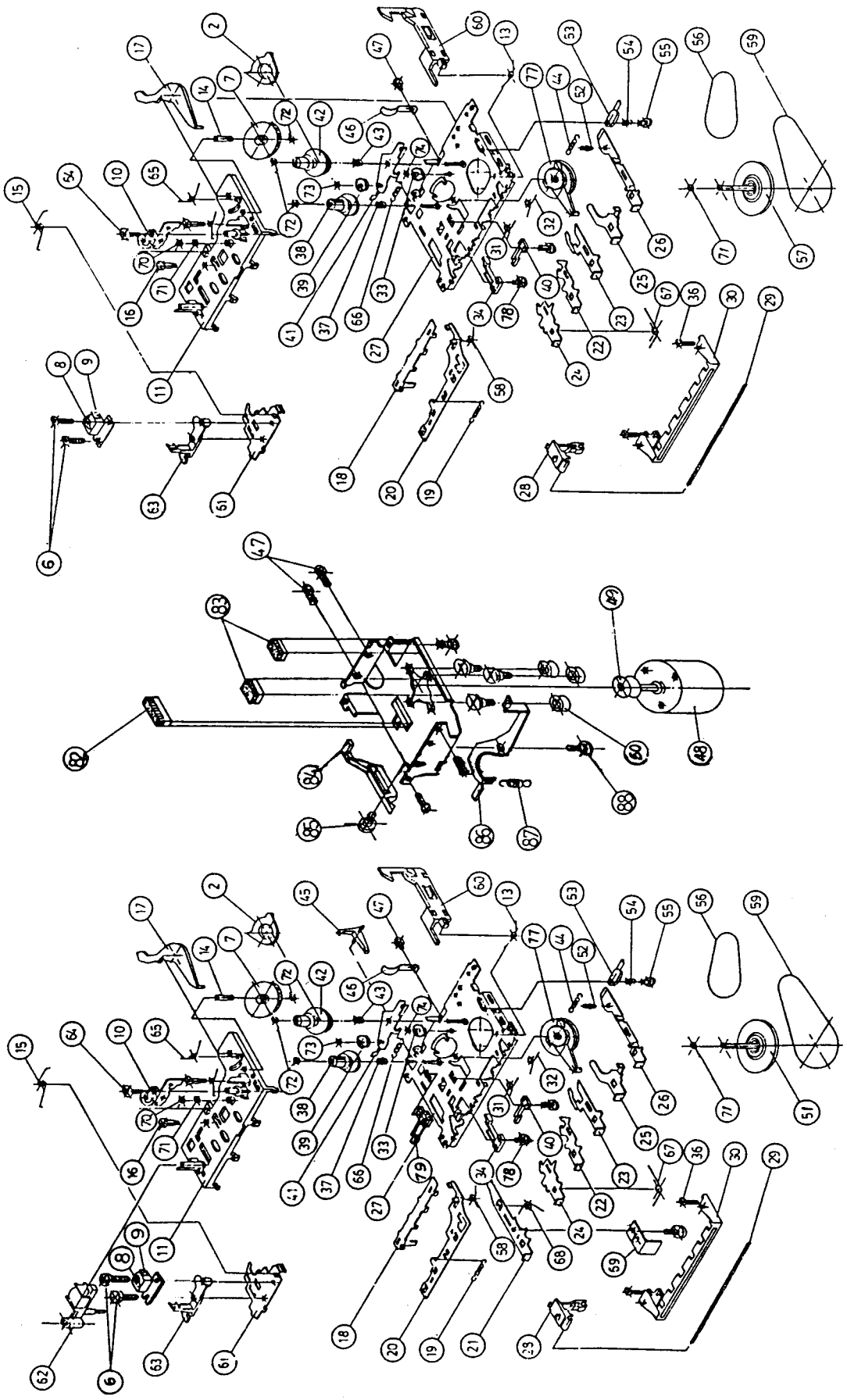
3. CASSETTE DECK ASSEMBLY

- MECHANICAL PARTS (CASSETTE DECK ASS'Y)

* Parts which are not discribed in the CASSETTE DECK list are not serviceable.
If you need any other parts except those described, apply CASSETTE DECK ass'y.

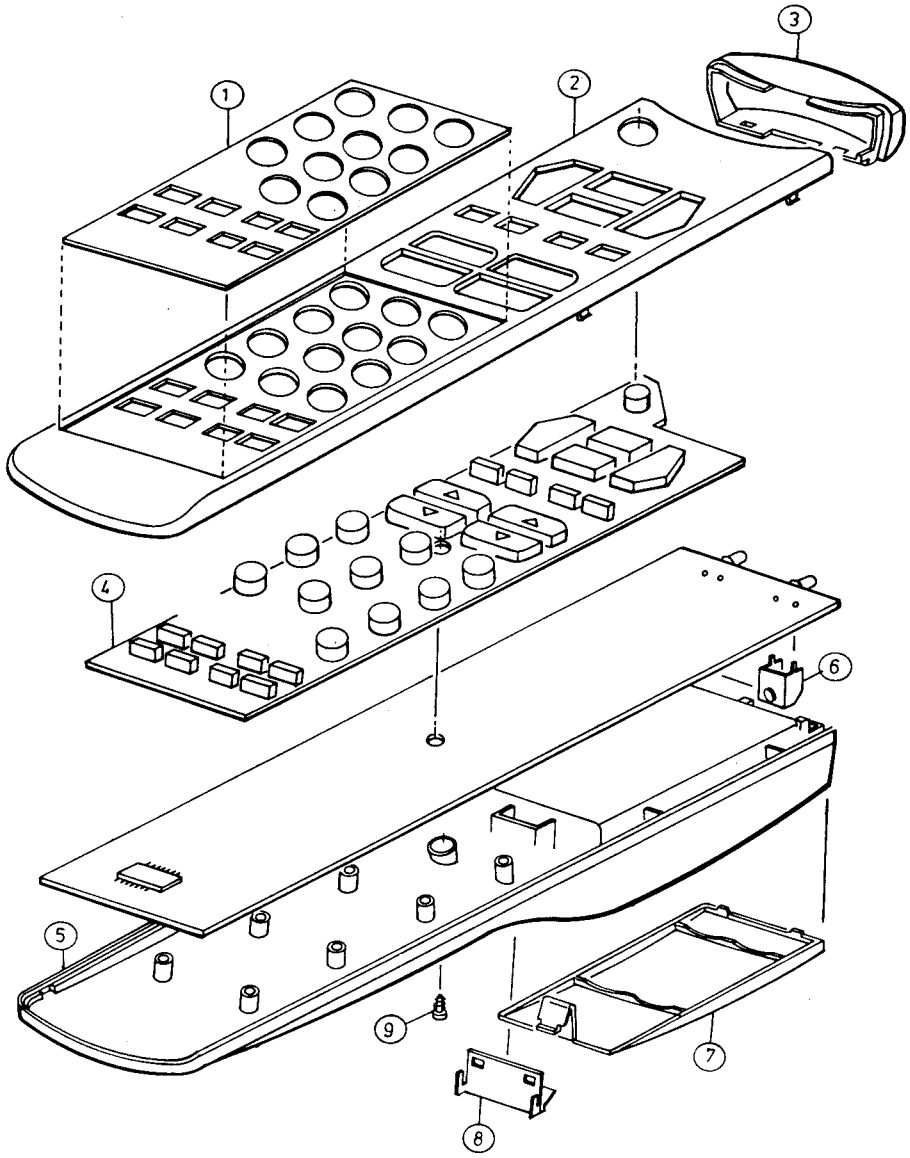
No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
	14929-104-961	TAPE DECK ; ADR1506FW		ASS'Y
2	10000-607-102	SENSOR REEL ; 1153-00080AA	2	
7	10000-607-107	GEAR CAN ; 11128-0391AA	2	
9	10000-523-008	RP HEAD ; MS 15R - AA2N1	2	
10	10000-607-110	ASS'Y PINCH ARM ; ADR 15 - 006	2	
17	10000-607-117	ARM SENSOR ; 11102 - 00530AA	2	
28	10000-607-128	KEY KNOB ; 11133 - 00010AA	12	
33	10000-607-133	GEAR FF ; 11128 - 00080AA	2	
34	10000-607-134	SW LEAR (MAIN) ; MSW2526GNBKCV	2	
38	10000-607-138	REEL S ASS'Y ; ADR15 - 001	2	
39	10000-607-139	GEAR ROLLER - T ; 11128 - 00050AA	2	
40	10000-607-140	SW LEAF (REC) : LSA1119EN	1	
42	10000-607-142	REEL T ASS'Y ; ADR15 - 002	2	
45	10000-607-145	LEVER REC SAFETY ; 11134 - 01000AA	1	
46	10000-607-146	SP PACK ; 51299 - 02506XC	2	
48	10000-502-020	MOTOR ; EG530 YD2B	1	
49	10000-607-149	PULLEY Y MOTOR ; 11145-00450AA	1	
51	10000-607-151	FLY WHEEL ASS'Y - S ; ADR15-003	1	
53	10000-607-153	CAM PAUSE LOCK ; 11116 - 00010AA	2	
55	10000-607-155	CAP ; 11117 - 00020AA	2	
56	10000-607-156	BELT SUB ; 34.7PI x 1.0T	2	
57	10000-607-157	FLY WHEEL ASS'Y - D ; ADR15 - 004	1	
59	10000-607-159	BELT MAIN ; 59.7PI x 1.0T	2	
60	10000-607-160	LEVER EJECT (F) ; 11134-01220AA	2	
62	10000-607-162	ARM MAGNETIC ; 11102 - 00520AA	1	
63	10000-607-163	BASE HEAD - M ; 11105 - 00030AA	2	
65	10000-607-165	SP PAUSE SAFETY ; 51263 - 02026	2	
77	10000-607-177	ARM F.R ASS'Y ; ADR15 - 005	2	
84	10000-607-184	LEVER RELEASE ; 11134 - 01240AA	1	
86	10000-607-186	LEVER SYNCRO ; 11134 - 01280AA	1	

● EXPLODED VIEW (CASSETTE DECK)



4.REMOTE CONTROL

- EXPLODED VIEW



- PARTS

No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
	14909-503-800	REMOCON ASS'Y ; SMALL TYPE SCM8100	1	ASS'Y
1	14014-0005-02	INLAY-REMOCON ; PC T0.5 BLK SCM8100	1	
2	12002-0054-02	CABINET-TOP ; ABS 94HB T2 BLK SCM8100	1	
3	12713-0008-00	LENS-REMOCON ; PC MQ360R T2.5	1	
4	14083-0136-02	KNOB-REMOCON ; SILICON BLK SCM8100	1	
5	12001-0055-00	CABINET-BOTTOM ; ABS 94HB T2 BLK MQ360R	1	
6	12724-0046-00	SPRING-BATTERY ; PS SUS T0.15 W22.3 L12	2	
7	13313-0026-00	COVER-BATTERY ; ABS94HBT1.5 BLK MQ360	1	
8	12724-0047-00	SPRING-BATTERY ; PS SUS T0.3W15.5 L9 M	1	
9	17158-220-063	SCREW TAP BH, SPEC 2S-2 x 6FZB	1	

■ ELECTRICAL PARTS LIST

⚠ indicates parts for circuit safeguarding purposes. Therefore, when replacing, be sure to use specified parts only.

1. MAIN SECTION

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
RR3	11048-477-391	R-METAL OXIDE ; RS1T 390-J MINI TYPE	1	
AR11L,11R	11048-477-479	R-METAL OXIDE ; RS1T 4.7-J MINI TYPE	2	
RR6	11048-577-221	R-METAL OXIDE ; RS2T 220-J MINI TYPE	1	
VR1	11048-577-331	R-METAL OXIDE ; RS2T 330-J MINI TYPE	1	
AR1,2	11058-223-101	R-FUSIBLE ; CRF 1/4W 100-J	2	⚠
RR1	11058-477-109	R-FUSIDLE ; RF 1T 1-J	1	⚠
ISR1,LSR3	11249-102-024	VR-SEMI TAPE-H ; DVN-DJA A03B53(5K)	2	
ISR2	11249-102-064	VR-SEMI TAPE-H ; DVN-DJA A03B54(50K)	1	
LSR1,2	11249-102-094	VR-SEMI TAPE-H; DVN-DJA A03B54(200K)	2	
RC1,2,5	11607-105-222	C-ELECTROLYTIC ; MC SMS 35V 2200M(16 x 31)	3	
AC3	11608-102-224	C-ELECTROLYTIC ; SMS T 10V 220M(6.3 x 11)	1	
OTC1,2,3,4	11829-512-030	C-TRIMMER ;TZ03R 20PF	4	
RIC1	12109-401-270	IC-FUNCTION ; LC7821	1	
RIC1	12109-401-690	IC-REGULATOR; MC7812C/KTA7812P	1	⚠
IIC1	12119-102-720	IC-AM,FM IF ; LA1851N	1	
JIC1	12119-201-840	IC-PLAY ; LA3246	1	
AIC1	12119-208-500	IC-POWER ; STK 4121-2	1	
PIC1,EIC1,BIC2	12119-401-630	IC-DUAL OPAMP ; MC4558S	3	
RQ3	12139-103-560	TRANSISTOR ; KSA 614-0	1	⚠
IQ5	12139-601-200	TRANSISTOR SILICON ; 2SK 583	1	
IQ3,4,LQ5,6,PQ2	12149-101-520	TRANSISTOR ; KSA733-Y, TAPE	5	
FQ1	12149-301-860	TRANSISTOR ; KSC838-0, TAPE	1	
AQ1L, 1R, RQ5,6, RQ1 JQIL, 1R, KQ2, PQ1, OQ1,2,3, DQ1L, 1R, LQ3	12149-301-900	TRANSISTOR ; KSC 945-Y,TAPE	15	
LQ1	12149-301-910	TRANSISTOR ; KSC2331-Y, TAPE	1	
RQ2, JQ3L, 3R, 4L, 4R	12149-301-930	TRANSISTOR ; KSC1008-Y, TAPE	5	
RQ4	12149-401-070	TRANSISTOR ; KSD73-Y	1	⚠
LQ7	12149-401-150	TRANSISTOR ; KSD471-Y, TAPE	1	
KQ1, IQ1	12159-301-330	TR-DIGITAL ; KSH2003, TAPE	2	
KQ3L, 3R	12159-301-780	TR-DIGITAL ; KSR1003	2	
IQ2	12169-301-800	TR-DIGITAL ; R1007/108M/124XS	1	
RD2,3,4,5,6	12159-201-080	DIODE-RECTIFIER ; 1N 4001, TAPE	5	⚠
RD1	12169-219-330	DIODE-BRIDG ; PBL403	1	⚠
LD8,9,KD2,3,4,SD1,2 LD10,11,14,15,16, AD1,2,RD7,BD1,ID1, RD11,PD1,LD18, AD8,LD7	12169-301-290	DIODE-SW ; 1SS53/1N4148, CT ; 6PF	22	
RZD1,2,PZD1	12169-403-210	DIODE-ZN ; UZP 4.7B/RD 4.7F	3	⚠
RZD13,4	12169-403-910	DIODE-ZN ; 1W11.4-12.6V UZP-12B	2	⚠
VZD1	12169-404-110	DIODE-ZN ; RD5.6FB/UZP-5.6B	1	⚠
OVD1	12169-501-005	DIODE ; KV1236	1	
KLF1L,1R,JLF1L,1R	12169-206-102	BIAS TRAP ; P126XC-7249Z	4	
LL2	12429-211-470	COIL-CHOKE AXIAL LEAD ; RES-1 Q40 LAL02	1	
IFT1	12619-020-067	COIL 7 CAN ; AB FM BLU	1	
IFT2	12619-030-005	COIL-CAN ; AC 450KHZ YEL	1	LW BAND
OT2	12619-041-813	COIL-CAN ; AD360UH 796KHZ RED	1	
OT1	12619-047-203	COIL-CAN; AD 110UH 796KHZ RED	1	
L1	12619-411-000	COIL-MW ANT ; 20/BLRZ-K5026N-KR	1	
L2	12619-566-913	COIL-TRANS TEN, CAN ; AF 2.4MH FLW RED	1	LW BAND
LL1	12619-577-771	COIL-BIAS OSC ; PCHNS-5371EQJ	1	
MCW6	13039-408-307	MULTI-WIRE ; 8P 2877#26 2M/M 300MM	1	
SPK	13303-500-620	TERMINAL-BOARD PUSH, N ; 4P PUSH HOOK	1	
PHONO,S-SPK	13339-403-020	JACK-AUX ; 8.3 PI PHOND TYPE	2	
ICF2	14529-304-610	FILTER CERAMIC ; AHCM2-450BL	1	
ICF1	14539-504-100	CERAMIC RESONATOR ; CSR 456F15	1	
	15009-510-870	HEAT-SINK ASSY ; ALS SCM7850,8100 20W	1	
	15684-507-610	HEAT-SINK ; AL EXTR WHT 30H, MQ6T	1	
PWB	16024-0095-00	P.C.B-MAIN ; 1V 0 T1.6 W247 L330	1	
	B1290-0002	TUNER-FM ; FE337-A05 3G 75/300OHM	1	
KIC1	B4008-0901	IC-OP AMP ; TA8135P DIP DUAL	1	
ANT	A3059-0006	TERMINAL-BOARD, PUSH ; SP-031 3P ANT,750	1	
AF1	13164-101-913	CLIP-FUSE ; PBP 3-1/2H T0.3SN	1	
FCF1,3	14529-301-753	FILTER-CERAMIC ; SFE 10.7MS3G-A TF21	2	

2. FRONT SECTION

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
PCB	19200-012-550	ASSY-FRONT PCB ; SCM8100LE	1	
QIC1	12119-101-820	IC-SW ; TC9135P	1	
QIC4	12119-101-830	IC-E/C VR ;TC9153AP	1	
QIC2,3,5	12119-401-630	IC-DUAL OPAMP ; MC4558S	3	
QQ9,10,11,12,13	12149-101-520	TRANSISTOR ; KSA733-Y, TAPE	5	
BQ5	12149-301-900	TRANSISTOR ; KSC945-Y,TAPE	1	
UQ5,EQ1	12149-301-930	TRANSISTOR ;KSC1008-Y,TAPE	2	
HQ1	12149-410-150	TRANSISTOR ; KSD471-Y, TAPE	1	
UQ1,QQ3,4	12159-301-330	TR-DIGITAL ; KSR2003, TAPE	3	
BQ7	12159-301-770	TR-DIGITAL ; KSR2011	1	
BQ6	12159-301-780	TR-DIGITAL ; KSR 1003	5	
QQ1,2,7,8 QQ9L,9R,10L,10R,11L, BQ1~4,QQ11R,12L, 12R,13L,13R,QQ14L, 14R,UQ2,QQ5,6	12159-301-790	TR-DIGITAL ; KSR1009	19	
UQ3,4	12159-301-810	TR-DIGITAL ; KSR2007	2	
UD21	12169-201-080	DIODE-RECTIFIER ; 1N 4001, TAPE	1	
UD1,2,3,4,5,6,7 UD16,17,18,19,20,22 QD1,2,3,4 BD1,2,UD12,13 UD30	12169-301-290	DIODE-SW ; 1SS53/1N4148,CT ; 6PF	22	
HZD1	12169-403-700	DIODE-ZN ; 500MW UZ-10BL	1	⚠
QZD1	12169-404-110	DIODE-ZN ; RD5.6FB/UZP-5.6B	1	⚠
EYE	12199-101-240	REMOCON-EYE ; MM-001M(16M/M)	1	
BLD1,2,3,4,5 QLD1,2,3,4,5,6,7	12309-001-210	LED ; SLV31DC TAPE	12	
HLD1,2,3,4,5	12309-117-520	LED-AMBER ; SEL 3913K TP5 TAPPING	5	
FCW6	13039-408-157	MULTI-WIRE ; 8P 2877#26 2M/M 150MM	1	
MIC,G	13059-101-201	LEAD-FASTEN ; 110 REC 200 RED	1	
FCW5	13099-500-530	CABLE IF ; 5264-02/JC25-02 1365, 30 400M	1	
LCD1	13323-0031-00	HOLDER-TUNER LCD ; ABS WHT SCM7850	1	
HEAD PHONE, MIC	13339-120-020	JACK HEAD PHONE ; LGT1506, 0100 PL3.5	2	

LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
SURROUND, HI-SPEED,TAPE SEL, CFB	13529-203-930	SW-PUSH ; SPEA122S C011	4	
US1~8, 11~21 QS1~5	13559-910-100	SWITCH-TACT ; SKHV10910A	24	
UX1	14539-003-010	CRYSTAL-UNIT ; HC18-U4.5MHZ	1	
PWB	16024-0101-00	P.C.B-FRONT ; 94HB T1.6 W139 L330 SCM8100	1	
LCD1	17654-571-710	FILTER-TUNER ; PC 0.5T MILKY WHT	1	
LCD1	17654-574-010	FILTER-TUNER, B ; DIAMET PE 0.125T#500	1	
QVR1	A1050-0014	VR-ROTARY METAL ; RK16K 1170 Z02 53W	1	
US9-10	A3012-0007	SW-ROTATRY ; IC2P 25MM NSH RK16K 1170 002	1	
LCD	A4155-0017	LCD ; LE-0669B SCM7850(AUDIO)	1	
FCW3	A6032-0017	WIRE-PLATE ; 11/100 2877#26(T) BLK MUTI	1	
FCW1	A6032-0019	WIRE-PLATE ; 9/100 2877#26(T) BLK MULTI	1	
FCW2	A6032-0020	WIRE-PLATE ; 7/150 2877#26(T) BLK	1	
FCW4	A6032-0021	WIRE-PLAET ; 14/150 2877#26(T) BLK	1	
UC6	B1104-0170	C-ELEC ; AC310-502G473Z5R5 CA 92 W 5.5V	1	
UIC1	B4002-0097	IC-MCU ; LC7232N-8453 MUSIC CENTER QFP	1	
	12169-301-290	DIODE-SW ; 1SS53/1N4148,CT : 6PF	2	

3. CD PLAYER SECTION

LOCATION No.	CODE No.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
R101, 102	11058-277-229	R-FUSIBLE ; RF 1/4T 2.2-J	2	⚠
R104	11058-277-479	R-FUSIBLE ; RF 1/4T 4.7-J	1	⚠
R109,110	11058-377-011	R-FUSIBLE ; RF 1/2T 1-J	2	⚠
VR201	11249-002-050	VR-SEMI, FIXED ; VZ066L, 2KB, HDK	1	
VR301,302,303,304	11249-102-004	VR-SEMI TAPE-H; DVN-DJA A03B24(20K)	4	
C104	11607-104-222	C-ELECTROLYTIC ; MC SMS 25V 2200M (16 x 25)	1	
C103	11609-154-332	C-ELECTROLYTIC ; SMS 25V 3300M(16 x 31.5)	1	
IC501	12109-401-310	IC-D/A CONVERTER ; KDA0316LN	1	
IC102	12109-401-750	IC REGULATOR ; MC79L05	1	⚠
IC401	12119-203-770	IC-DS PROCESSOR ; KS5990/KS5991	1	
IC301	12119-203-790	IC-RF AMP ; KA9201	1	
IC502	12119-401-630	IC-DUAL OPAMP ; MC4558S	1	
IC503	12119-401-760	IC-OP AMP ; NJM2068SD/UPC4570HA	1	
IC101	12119-601-770	IC-REGULATOR ; MC7805	1	
Q101	12139-103-560	TRANSISTOR ; KSA 614-0	1	⚠
Q209	12149-101-560	TRANSISTOR ; KSA708-Y, TAPE	1	⚠
Q204,206,PQ2	12149-101-590	TRANSISTOR ; KSA931-Y, TAPE	3	
Q202	12149-201-480	TRANSISTOR ; KSB772-Y	1	
Q301	12149-202-050	TRANSISTOR ; KSB564A-Y	1	
Q500,501,503,504 Q601,PQ1	12149-301-900	TRANSISTOR ; KSC945-Y, TAPE	6	
Q203,205,PQ3	12149-301-910	TRANSISTOR ; KSC2331-Y, TAPE	3	
Q208	12149-301-930	TRANSISTOR ; KSC1008-Y, TAPE	1	
HOLDER-CD, LCD	13321-0026-00	HOLDER-CD, LCD ; ABS WHT SCM7850	1	
CN302 (RED)	13349-143-080	CONNECTOR RED ; 8PIN PITCH 2MM(2011P08V)	1	
CN301(WHITE)	13349-144-080	CONNECTOR WHITE ; 8PIN PITCH 2MM(2011P0)	1	
SW1,2,3,4,5	13559-102-010	SWITCT-TACT ; JTP1236A 160G	5	
SW6,7,8,9,10	13559-901-130	PUSH-SW ; SKHT27006A	5	

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
Q201	12149-401-950	TRANSISTOR ; KSD 882-Y	1	
Q507,508	12159-301-330	TR-DIGITAL ; KSR2003,TAPE	2	
Q505	12159-301-780	TR-DIGITAL ; KSR 1003	1	
Q207	12159-301-800	TR-DIGITAL ; R1007/108M/124XS	1	
D606,PD1,2,3,4,5,6	12169-201-080	DIODE-RECTIFIER ; 1N 4001, TAPE	7	
D301,601 ~605,805 RD623	12169-301-400	DIODE-SWITCH ; 1N4148M ROHM(SMALL)	8	
ZD101	12169-404-110	DIODE-ZN ; RD5.6FB/UZP-5.6B	1	
LED1,2,3,4,5,6,7,8	12309-117-520	LED-AMBER ; SEL 3913K TP5 TAPPING	8	
CN602-606	13039-402-103	MULTI-WIRE ; 2468#26-2 100M	1	
CN607-608	13039-408-157	MULTI-WIRE ; 8P 2877#26 2M/M 150MM	1	
X601	14534-504-043	CERAMIC-RESONATOR ; CSA 4.00MG-TF01S	1	
PCB	16024-0022-00	PCB-MAIN ; 1V-0 T1.6 W163/L197 SCM7800	1	
FILTER-CD LCD	17654-571-810	FILTER-CD LCD ; PC 0.5T MILKY WHT	1	
X401	A1280-0071	CRYSTAL ; 16.9344MHZ HC-49/U-A 17PPM	1	
IC601	A4002-0136	IC-MCU ; KS56C820-40 SCM7850 QFP	1	
IC201	A4012-0105	IC-LINEAR ; KA8309B QFP	1	
LCD1	A4155-0018	LCD ; LE-0670A SCM7850(AUDIO)	1	

4. GENERAL SECTION

1) AC110V/220V UNIT

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
P/TRANS	12869-225-800	TRANS-POWER ; EI66 x 40 AC110V/220V 60Hz/50Hz	1	⚠
VOLTAGE SELECTOR	13599-502-020	VOLT SELECTOR ; PCB 00120353A (354) 110V/220V	1	⚠
POWER CORD	13059-808-341	POWER CORD ASSY ; KKP 419C/B161 VDE W/S	1	⚠
	14709-241-240	FUSE ; T250V 1.6A 20EUR	1	⚠
	14709-241-160	FUSE ; T250V 0.63A	1	⚠

2) AC 120V UNIT

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
P/TRANS	12869-225-830	TRANS-POWER ; EI66 x 40 AC115/230V 60/50Hz	1	⚠
	12869-225-820	TRANS-POWER ; EI660 x 40 AC120V 60Hz UL/CSA	1	⚠
	13059-808-313	POWER CORD ASS'Y ; KKP-8WSPT-27FT 270M/M W/S	1	⚠
	13059-800-000	POWER CORD ASS'Y ; KKP-8WSP-27FT 270M/M W/S	1	⚠
	14709-241-240	FUSE ; T250V 1.6A 20EUR	1	⚠
	14709-333-240	FUSE ; UL CAS 51S 125V 1.6A	1	⚠

3) AC 230V UNIT

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
P/TRANS	12869-225-830	TRANS-POWER ; EI 66 x 40 AC115/230V 60Hz/50Hz	1	⚠
POWER CORD	13059-808-341	POWER CORD ASSY; KKP419C/B161 VDE W/S 300M/M	1	⚠
	14709-241-160	FUSE ; T250V 0.63A	1	⚠

4) AC 110V-130V/220V-240V UNIT

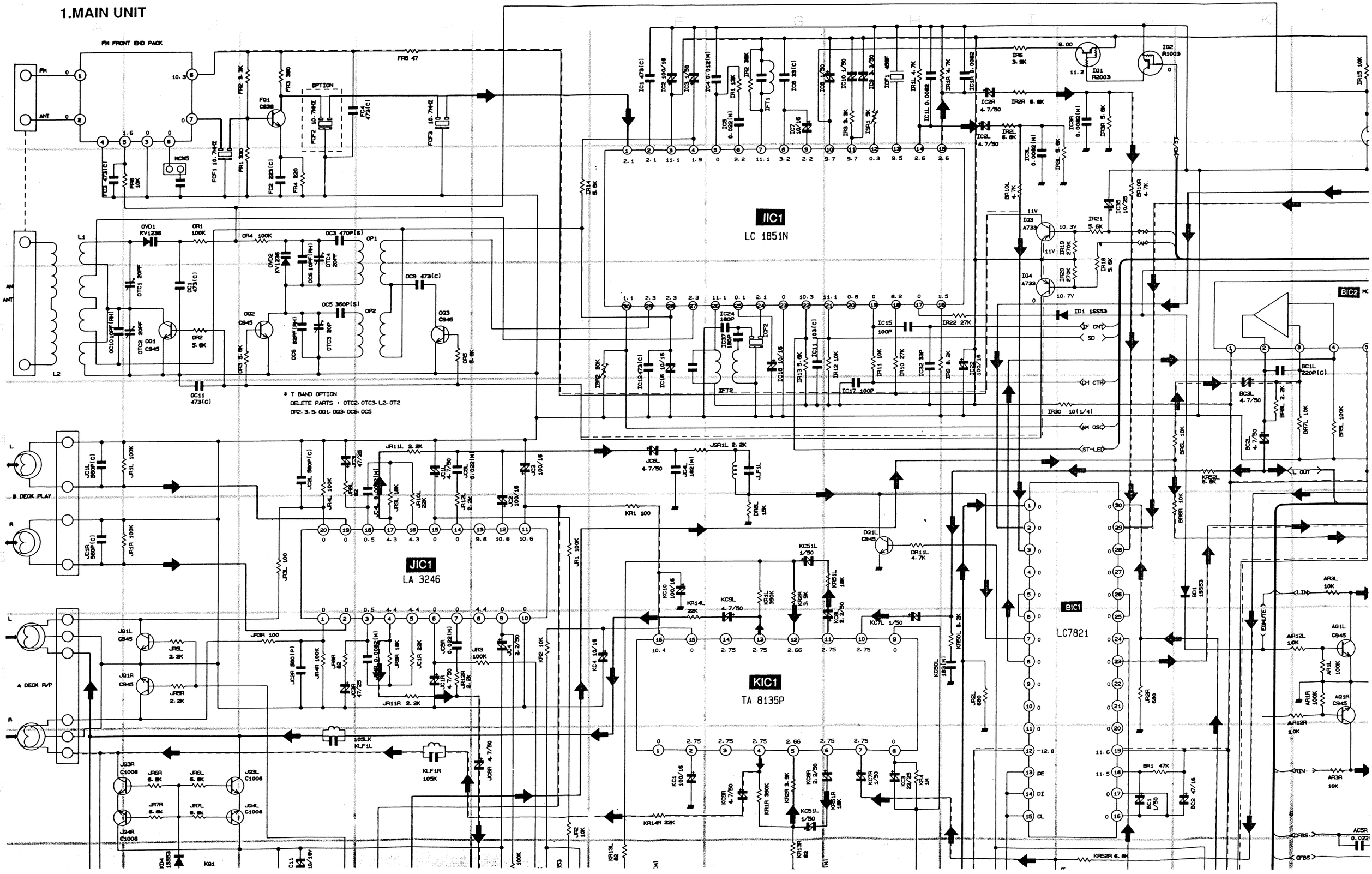
LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
P/TRANS	12869-225-830	TRANS-POWER ; EI 66 x 40 AC115/230V 60Hz/50Hz	1	⚠
POWER CORD	13059-808-341	POWER CORD ASSY; KKP419C/B161 VDE W/S 300M/M	1	⚠
	14709-241-160	FUSE ; T250V 0.63A	1	⚠
	14709-241-240	FUSE ; T250V 1.6A 20 EUR	1	⚠

5) AC 240V UNIT

LOCATION No.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
P/TRANS	12869-225-830	TRANS-POWER ; EI66 x 40 AC115/230V 60Hz/50Hz	1	⚠
POWER CORD	13053-505-011	POWER CORD ASSY ; BS6500 GTBS 2.5M W/S 220M/M	1	⚠
	14709-241-160	FUSE ; T250V 0.63A	1	⚠

■ SCHEMATIC DIAGRAM

1.MAIN UNIT



■ IC & TR INTERNAL DIAGRAM

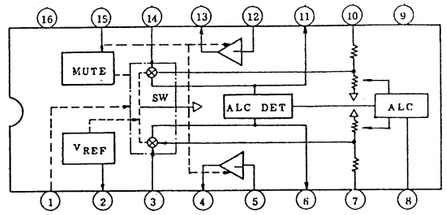
●TR

Address	LOCATION
NII	RQ3
L1	IQ5
J2,3,E10,H10,H9	IQ3.4,LQ5.6,PQ2
C1	FQ1
N9,C7,B7	RQ2,JQ3L,3R
C7,B7,	4L,4R
M10,G10	RQ4,LQ7
F8,G8	KQ3L.3R
J1	IQ2

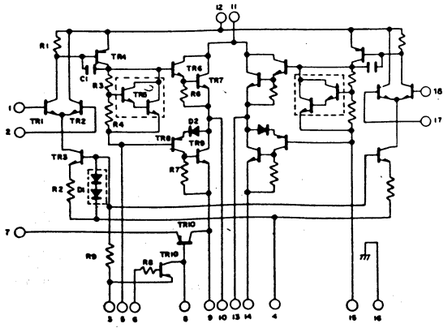
●IC

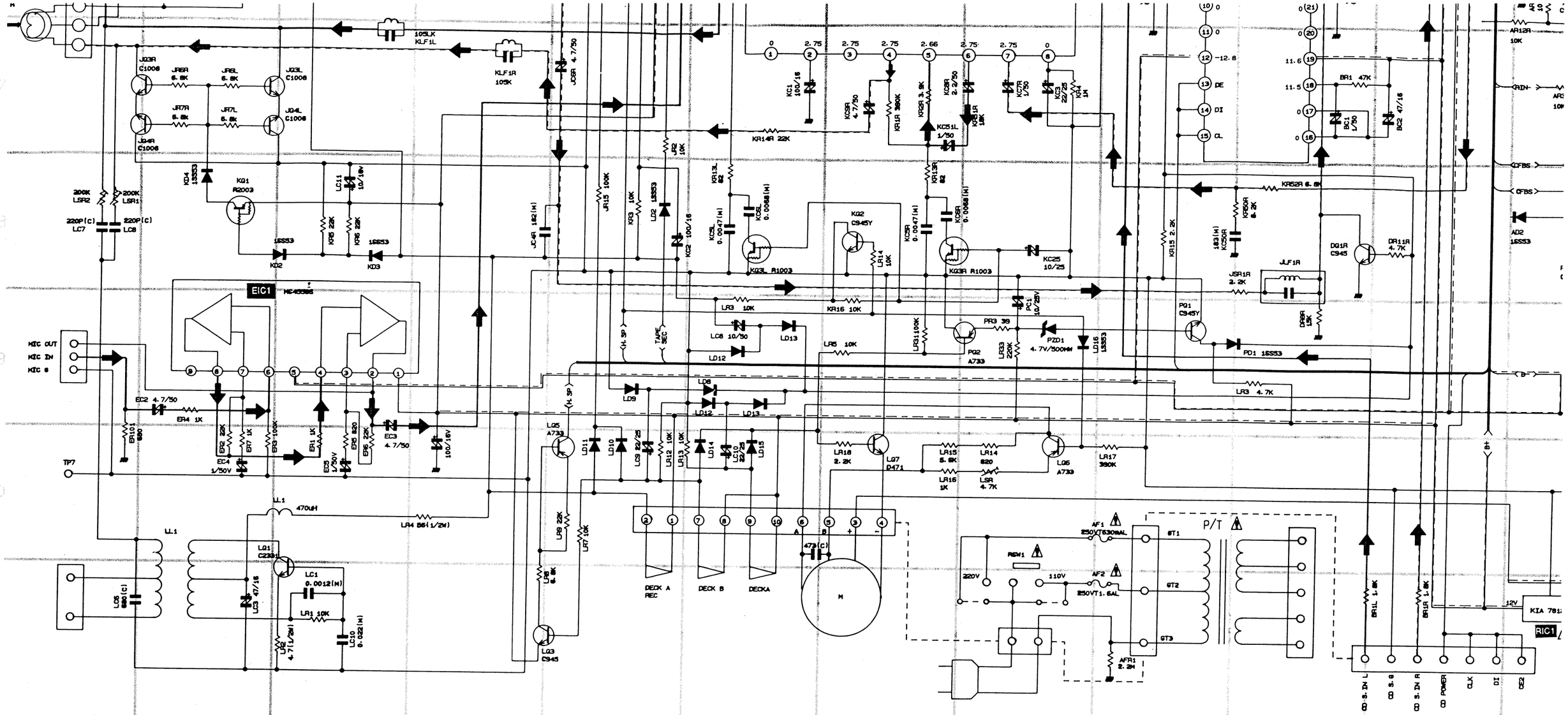
Address	LOCATION
J6	BIC1
L11	RIC1
Q3	IIC1
D6	JIC1
M6	AIC1
N1,C9,L3	PIC1,EIC1,BIC2
G7	KIC1

● TA 8135P(OP AMP):KIC1

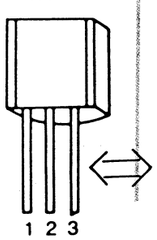


● ST4121-2(POWER IC):AIC1



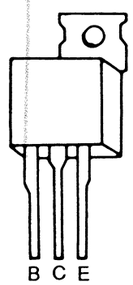


● TR

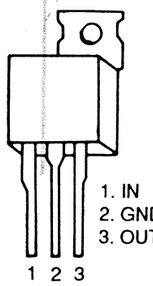


TR	1	2	3
KSR2003,KSR1003 KSC2331	E	C	B
KSC945,KSC1008 KSA733,KSA708, KSC838	E	B	C
2KS 583	DRAIN	SOURECE	GATE

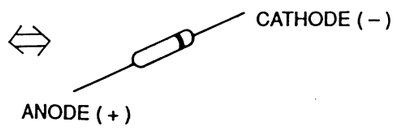
● TR:KSD-73Y RQ4
KSA-614 RQ3



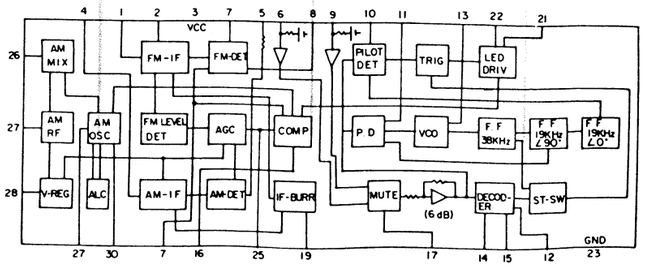
● MC 7812 C/KIA7812P (REGULATOR IC):RIC1

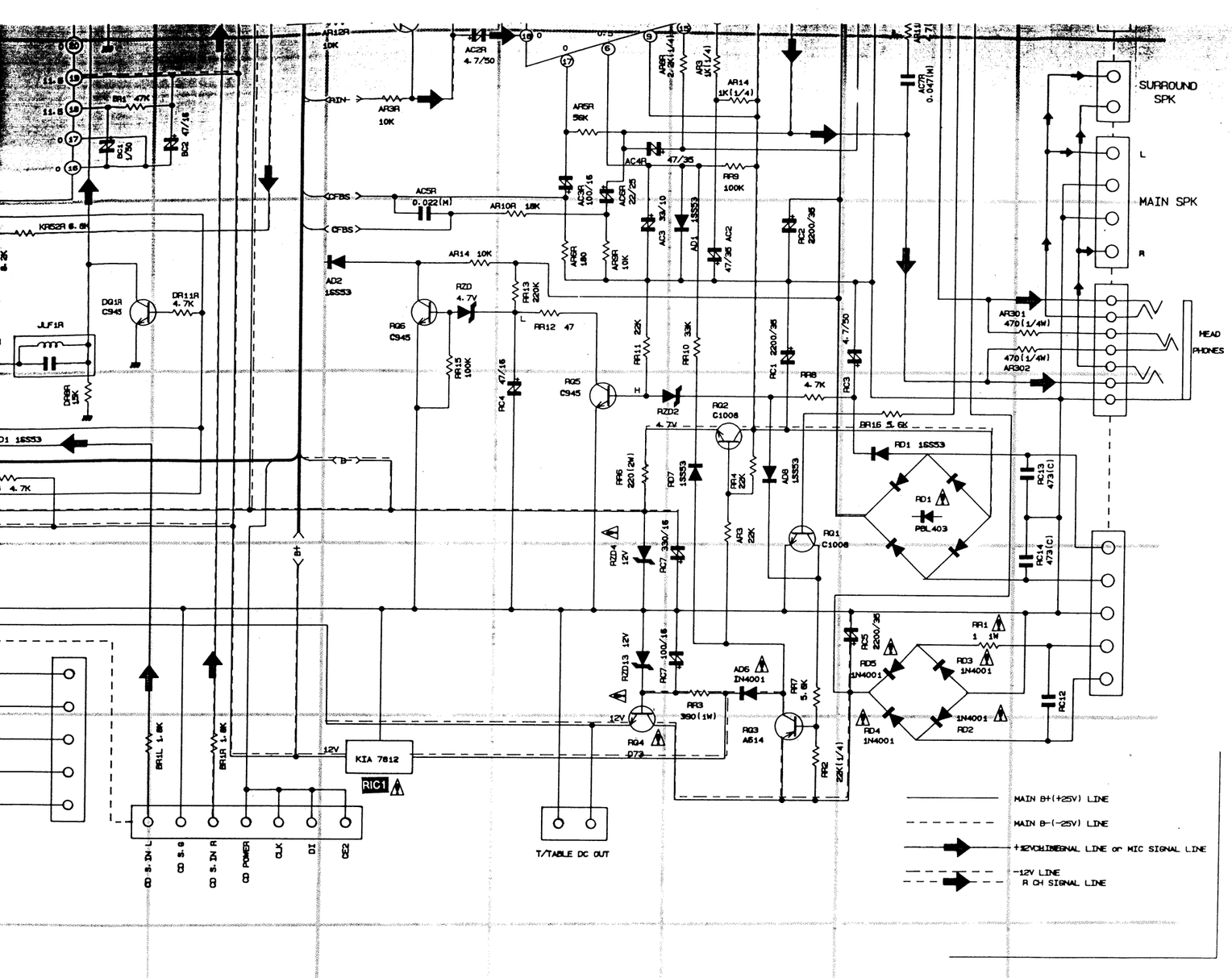


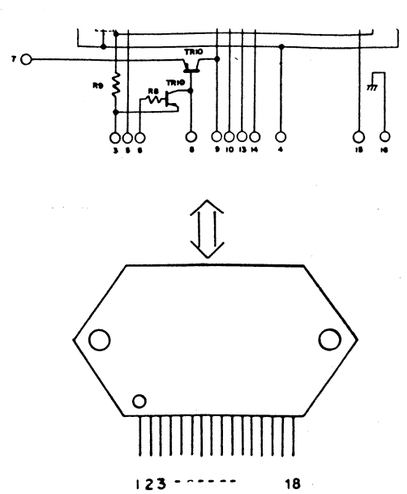
● DIODE 1N4148M/1SS53, 1N4001 ZENER DIODE



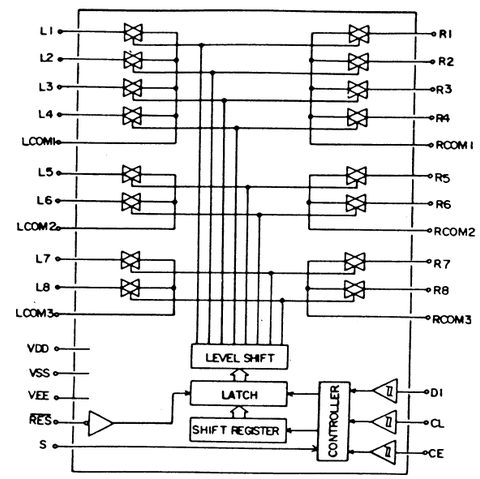
● LA1851N(FM, AM, IF IC) : IIC1

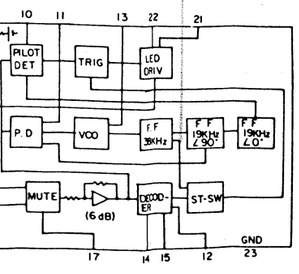




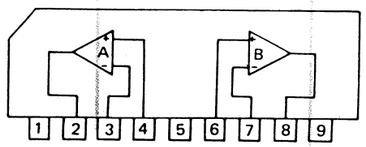


● LC7821(FUNCTION S/W) : BIC1



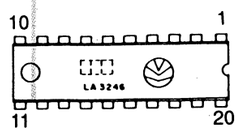


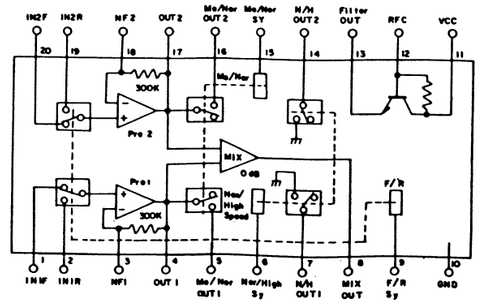
● MC4558S(OP AMP):EIC1,BIC2,PIC1



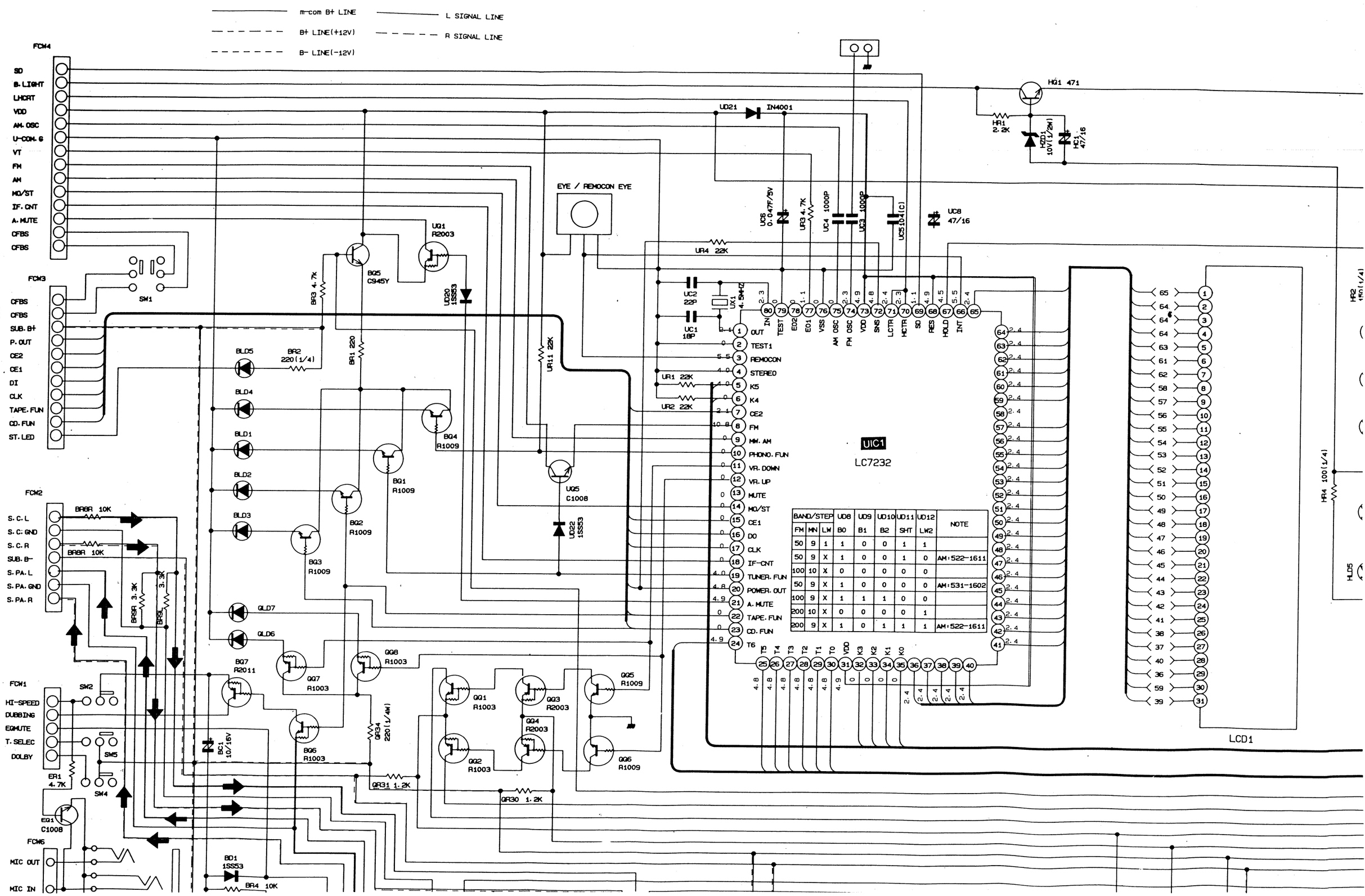
1.V+ 6.B+INPUT
2.A OUTPUT 7.B-INPUT
3.A-INPUT 8.B OUTPUT
4.A+INPUT 9.V+
5.V-

● LA3246(IC-PLAY) : JIC1





2.FRONT UNIT

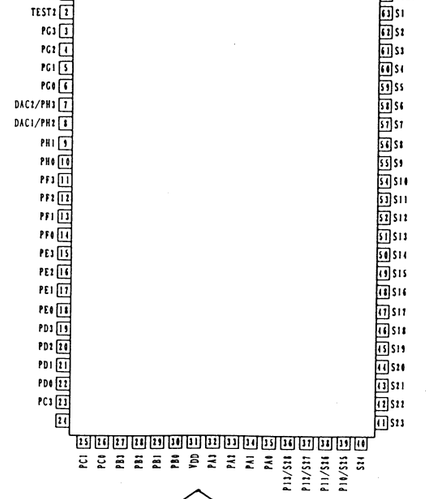

m-com B+ LINE
B+ LINE(+12V)
B- LINE(-12V)
L SIGNAL LINE
R SIGNAL LINE
FCN4
SD
B.LIGHT
LHCRT
VDD
AM.OSC
U-COM.6
VT
FM
AM
MO/ST
IF.CNT
A.MUTE
CFBS
CFBS
FCN3
CFBS
CFBS
SUB.B+
P.OUT
CE2
CE1
DI
CLK
TAPE.FUN
CD.FUN
ST.LED
FCN2
S.C.L
S.C.GND
S.C.R
SUB.B-
S.PA.L
S.PA.GND
S.PA.R
FCN1
HI-SPEED
DUBBING
EQMUTE
T.SELEC
DOLBY
FCN6
MIC OUT
MIC IN
SW1
SW2
SW4
SW5
EYE / REMOCON EYE
UD21 IN4001
HQ1 471
HR1 2.2K
HZD1 10V(1/2W)
HC1 47/16
UC6 0.047F/5V
UR3 4.7K
UC4 1000P
UC3 1000P
UC5 104(C)
UC8 47/16
UR4 22K
UQ1 R2003
BQ5 C945Y
BR3 4.7K
UD20 1SS53
BR1 220
BR2 220(1/4)
UR11 22K
BLD5
BLD4
BLD1
BLD2
BLD3
BQ4 R1009
BQ1 R1009
BQ2 R1009
BQ3 R1009
UQ5 C1008
UD22 1SS53
QLD7
QLD6
BQ7 R2011
QQ7 R1003
QQ8 R1003
QQ1 R1003
QQ3 R2003
QQ4 R2003
QQ2 R1003
QQ5 R1009
QQ6 R1009
QR34 220(1/4W)
QR31 1.2K
QR30 1.2K
BC1 10/16V
BR5 3.3K
BR6R 3.3K
BR6R 10K
BR6R 10K
ER1 4.7K
EQ1 C1008
BD1 1SS53
BR4 10K
UC2 22P
UC1 18P
UX1 4.5MHZ
UR1 22K
UR2 22K
UIC1
LC7232
IN
TEST
E02
E01
VSS
AM OSC
FM OSC
VDD
SMS
LCTR
HCTR
SD
RES
HOLD
INT
OUT
TEST1
REMOCON
STEREO
K5
K4
CE2
FM
MW. AM
PHONO. FUN
VR. DOWN
VR. UP
MUTE
MO/ST
CE1
DO
CLK
IF-CNT
TUNER. FUN
POWER. OUT
A. MUTE
TAPE. FUN
CD. FUN
T6
T5
T4
T3
T2
T1
T0
VDD
K3
K2
K1
K0
BAND/STEP
FM
MW
LW
UD8 B0
UD9 B1
UD10 B2
UD11 SHT
UD12 LW2
NOTE
50 9 1 1 0 0 1 1
50 9 X 1 0 0 1 0 AM:522-1611
100 10 X 0 0 0 0 0
50 9 X 1 0 0 0 0 AM:531-1602
100 9 X 1 1 1 0 0
200 10 X 0 0 0 0 1
200 9 X 1 0 1 1 1 AM:522-1611
HR2 150(1/4)
HR4 100(1/4)
HLD5
LCD1

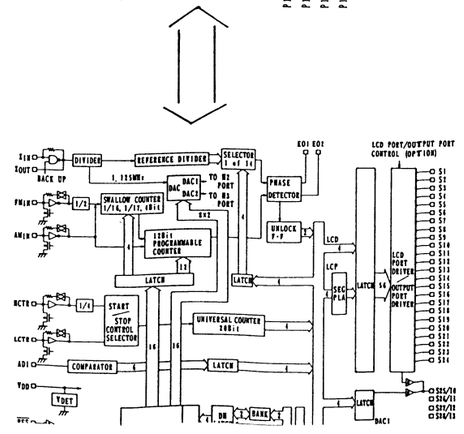
■ IC&TR INTERNAL DIAGRAM

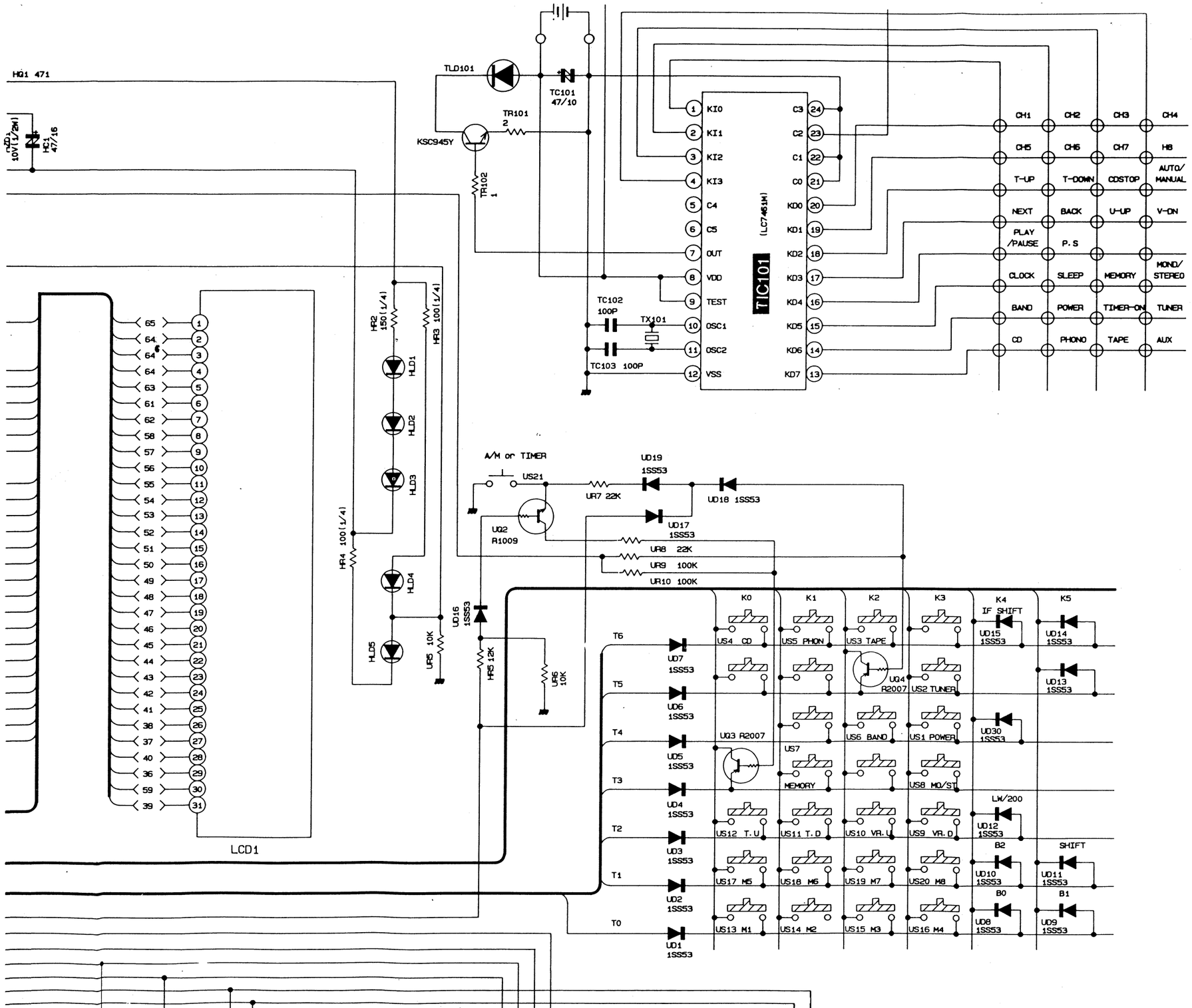
● TR	LOCATION
Address	QQ9,10,11,12,13
E8,E9,E10	BQ5
D2	UQ5,EQ1
A7,E4	HQ1
I1	UQ1,QQ3,4
E2,E6	BQ7
C6	BQ6
D6	QQ9L,9R,10L,10R,11L
E9,E10	BQ1~4,QQ11R,12L
H9,H10	12R,13L,13R,QQ14L
D3,D4	14R,UQ2,QQ5,6
I8,I10,K9,M4	UQ3,4
F6	

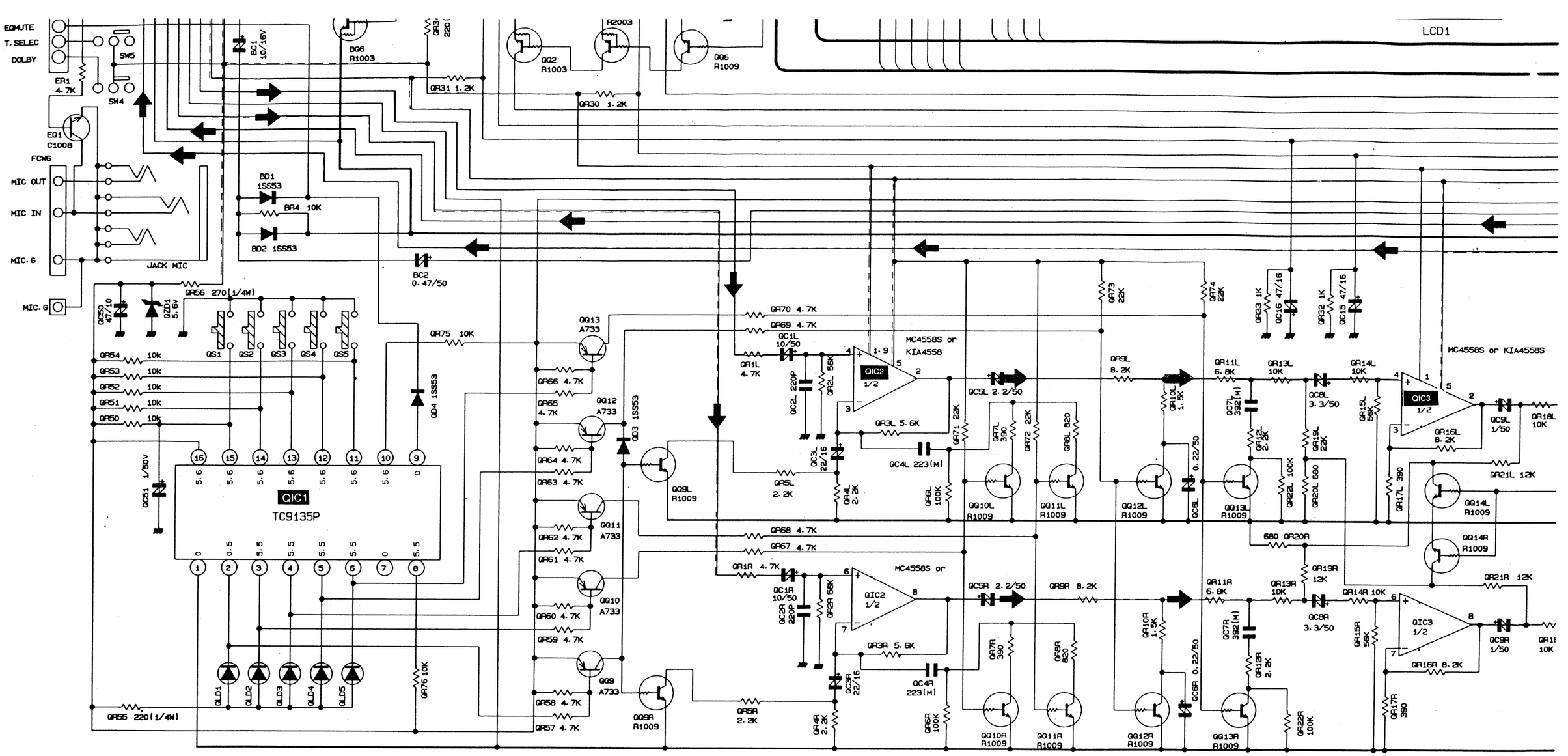
● IC	LOCATION
Address	QIC1
C9	QIC4
M9	QIC2,3,5
G9,K9,O7	UIC1
H4	

● LC7232N-B453(MICOM-IC): UIC1

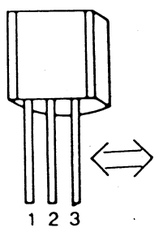






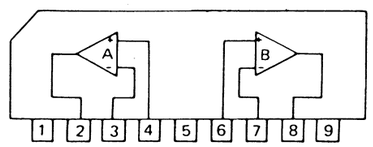


● TR



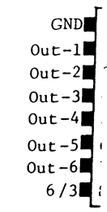
TR	1	2	3
KSR2003,KSR1003 KSR2011	E	C	B
KSC945,KSC1008 KSA733,KSD471, KSR1009	E	B	C

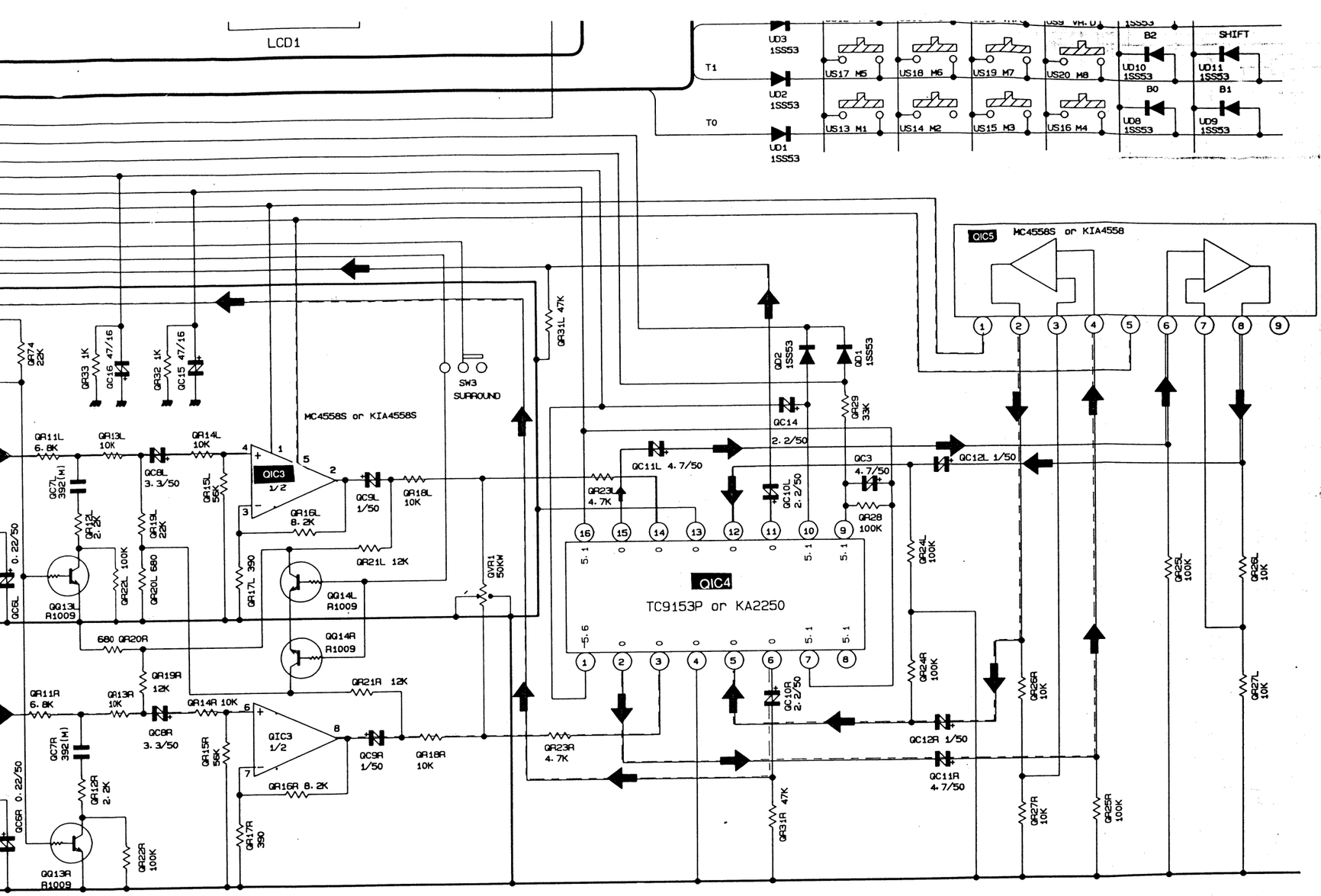
● MC4558S(OP AMP):QIC2,3,5

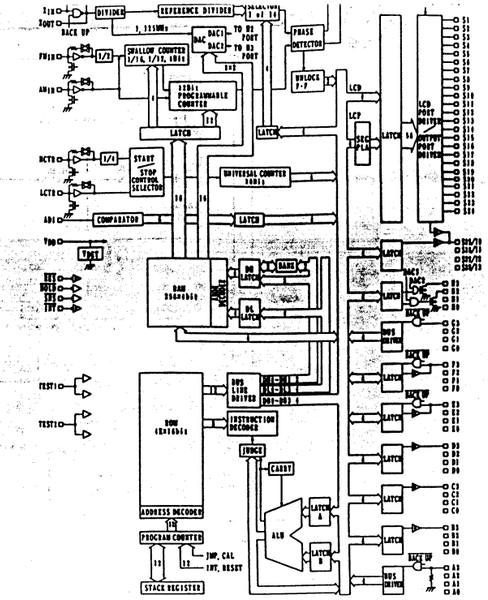


1.V+
2.A OUTPUT
3.A-INPUT
4.A+INPUT
5.V-
6.B+INPUT
7.B-INPUT
8.B OUTPUT
9.V-

● TC 9135



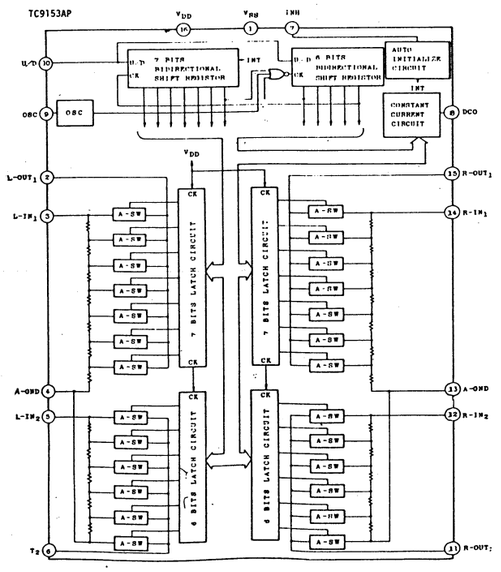




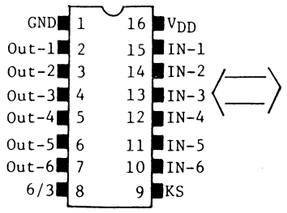
● TC9153P or KA2250(E/C VR):QIC4

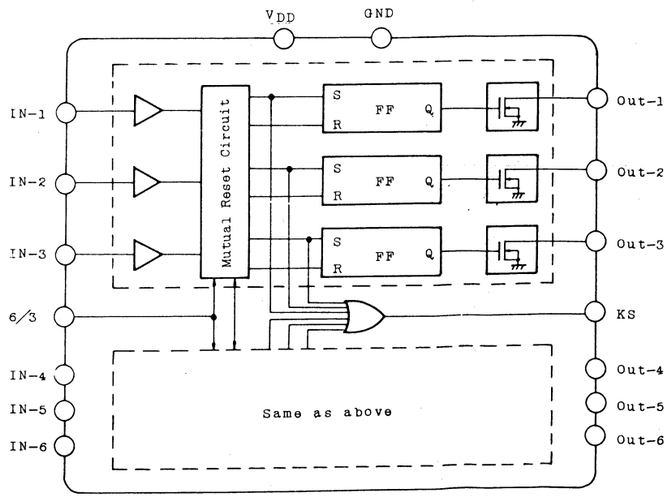
PIN CONNECTION

TC9153AP



● TC 9135P (SW-ZC):QIC1





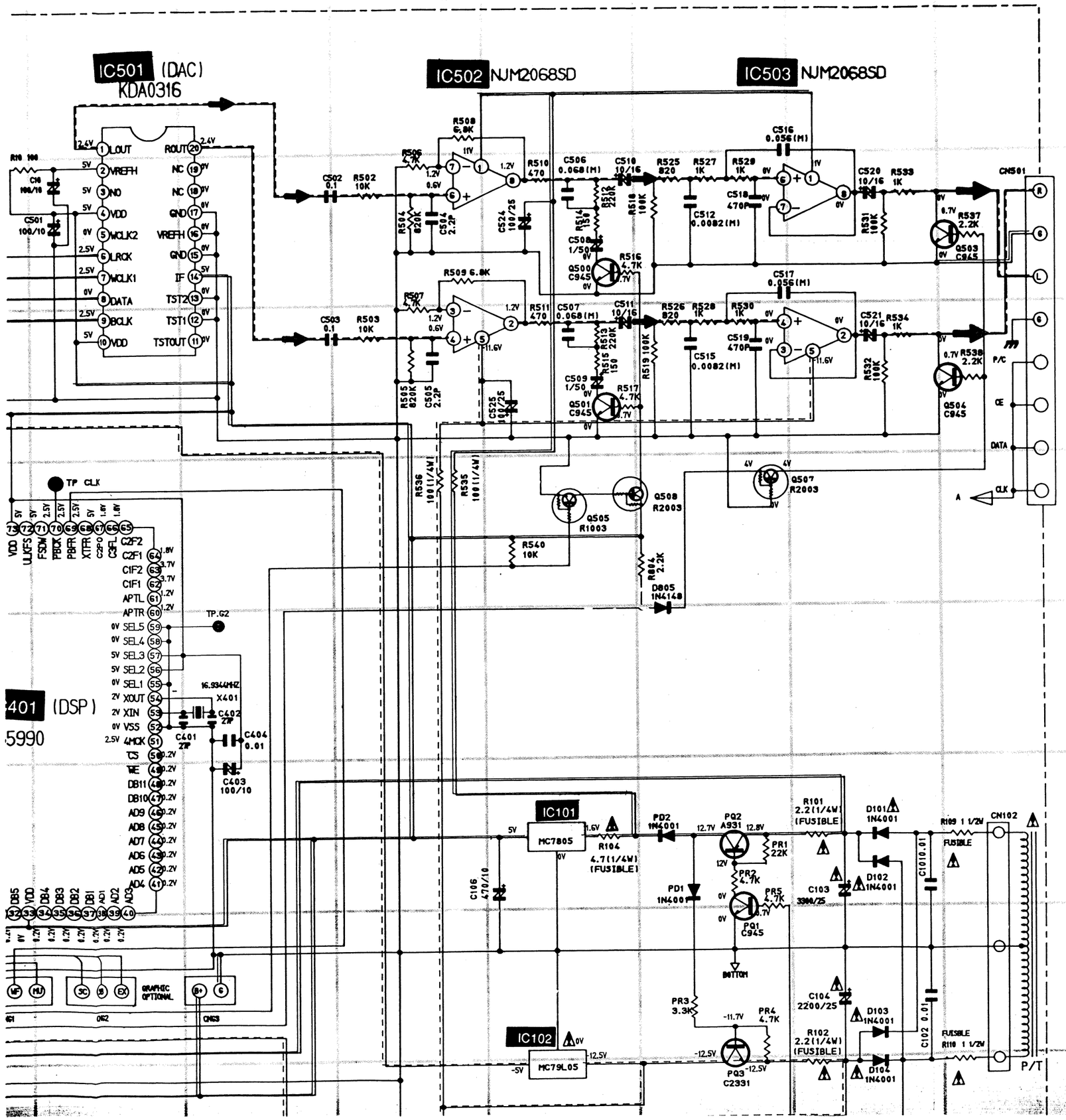
3.CD PLAYER UNIT

IC 301
KA9201
(RF-AMP)

IC201 (SSP)
KA8309B

IC501 (DAC)
KDA0316

IC401 (DSP)
KS5990



■ IC&TR INTERNAL DIAGRAM

● TR

Address	LOCATION
O10	Q101
B7	Q209
B6,B7,P7	Q204,206,PQ2
B5	Q202
B1	Q301
O2,O3,P2,P3,H9,P7	Q500,501,503,504,601,PQ1
B5,E7,P8	Q203,205,PQ3
B6	Q208
B4	Q201
P5,O4	Q507,508
G6	Q207

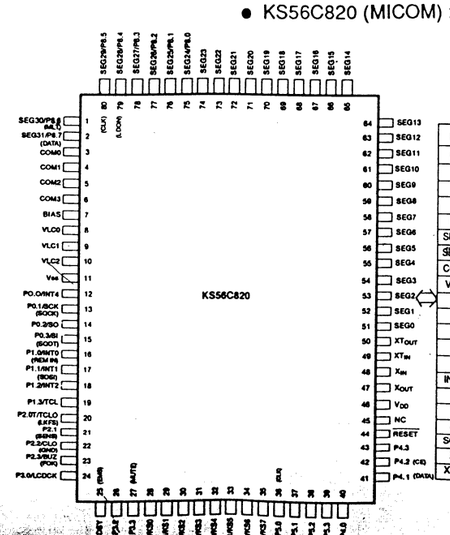
● IC

Address	LOCATION
K2	IC501
N8	IC102
J6	IC401
C2	IC301
N1	IC502
P2	IC503
N7	IC101
D10	IC601
E6	IC201
B9	LCD1

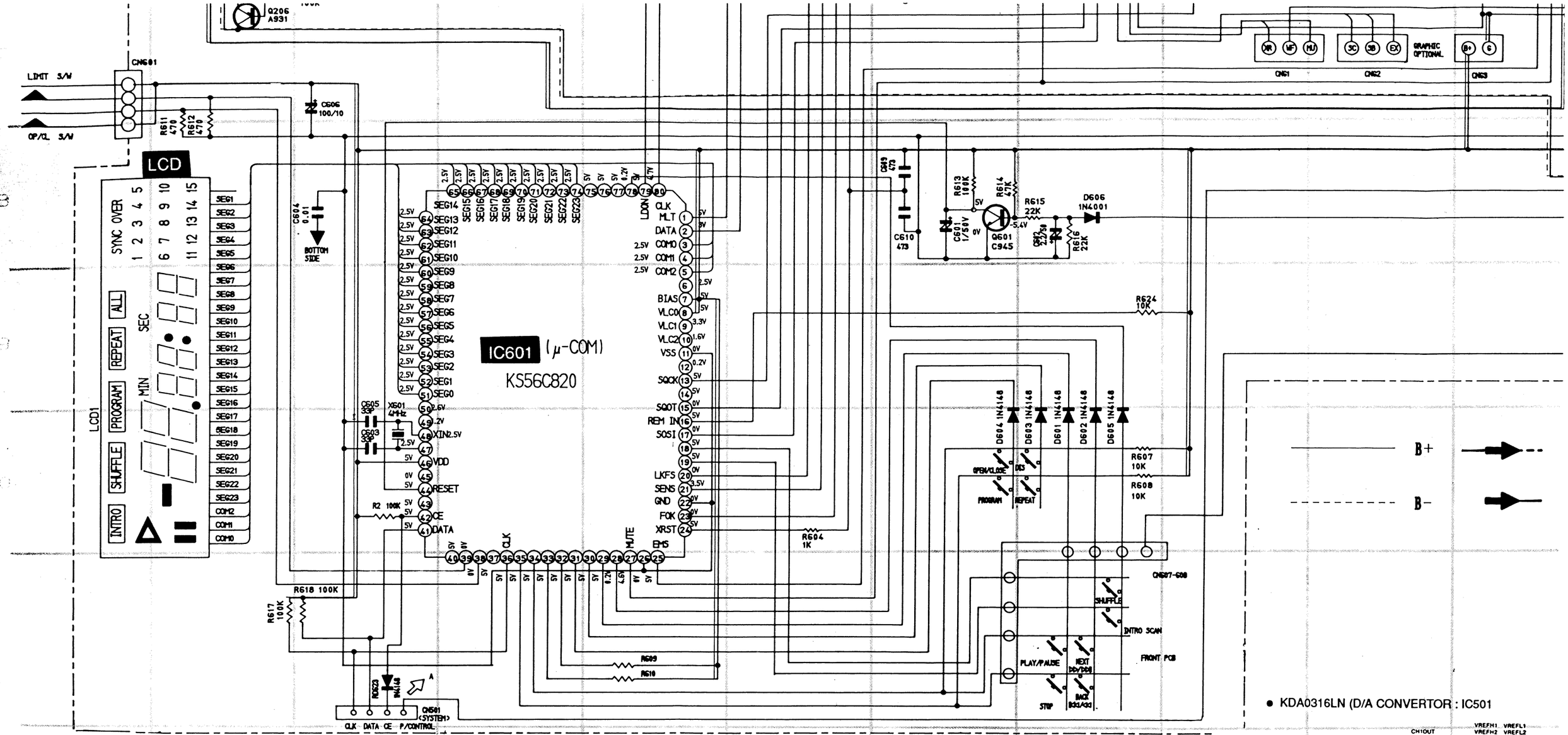
● LE-0670A(CD LCD):LCD1

No.	COM. 1	COM. 2	COM. 3	No.	COM. 1	COM. 2	COM. 3	No.	COM. 1	COM. 2	COM. 3
1	COM.1			11	PROGRAM	3f	3e	20	SYNC	6f	6e
2		COM. 2		12	3 a	3g	3d	21	6 a	6g	6d
3			COM. 3	13	MIN	3b	3c	22	OVER	6b	6c
4	INTRO	▷	▮▮	14	REPEAT	4f	4e	23	1	8	11
5	—	1f	1e	15	4 a	4g	4d	24	2	7	12
6	1 a	1g	1d	16	:	4b	4c	25	3	8	13
7		1b	1c	17	ALL	5f	5e	26	4	9	14
8	SHUFFLE	2f	2e	18	5 a	5g	5d	27	5	10	15
9	2 a	2g	2d	19	SEC	5b	5c	28		N C	
10	·	2b	2c								

● KS56C820 (MICOM) : IC601



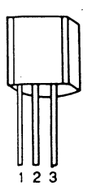
Pin Name	Pin description
P1.0-P1.3	4-bit Input
P2, P7	4-bit Input/Output
P3, P6	I/O mode selectable in 1-bit unit by software
P4, P5	4-bit input/output, N-ch open drain
P8.0-P8.7	Outputs in 1-bit unit (shared with segment outputs)
SEG0-SEG23	Segment output for LCD display
SEG24-SEG31	Segment output for LCD display (shared with Port 8)
COM0-COM3	Common signal output for LCD display
VLC0-VLC2	LCD power supply pin
BIAS	LCD power supply control pin for 3/5V operating
LCDCK	LCD clock output for display expansion
LCDSY	LCD sync. clock output for display expansion
TCL	Timer/Counter external clock input
TCLO	Timer/Counter clock output
INT0, 1, 2, 4	External interrupt input
CLO	Clock output
BUZ	2KHz clock output for buzzer
KS0-KS7	Semi-interrupt input detecting external falling edge
SCK, SI, SO	SCK: serial clock, SI: serial input, SO: serial output
XIN, XOUT	Crystal/ceramic or RC clock I/O for Main-system clock
XTIN, XTOUT	Crystal clock I/O for sub-system clock



2. CD

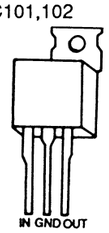
- TR

1)



TR	1	2	3
KSA931, KSC2331, KSR2003 KSR1003, KSR1007	E	C	B
KSA708, KSB564, KSC945 KSC1008	E	B	C
MC79L05	G	IN	OUT

2) MC 7805,MC 79L05 (REGULATOR IC): IC101,102



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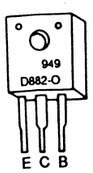
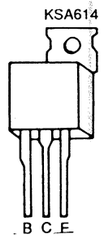
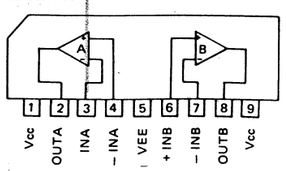


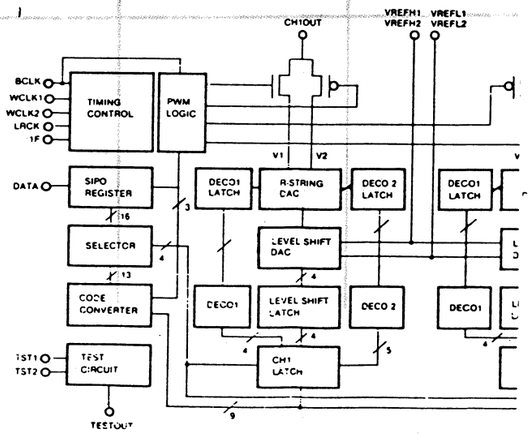
KSA614

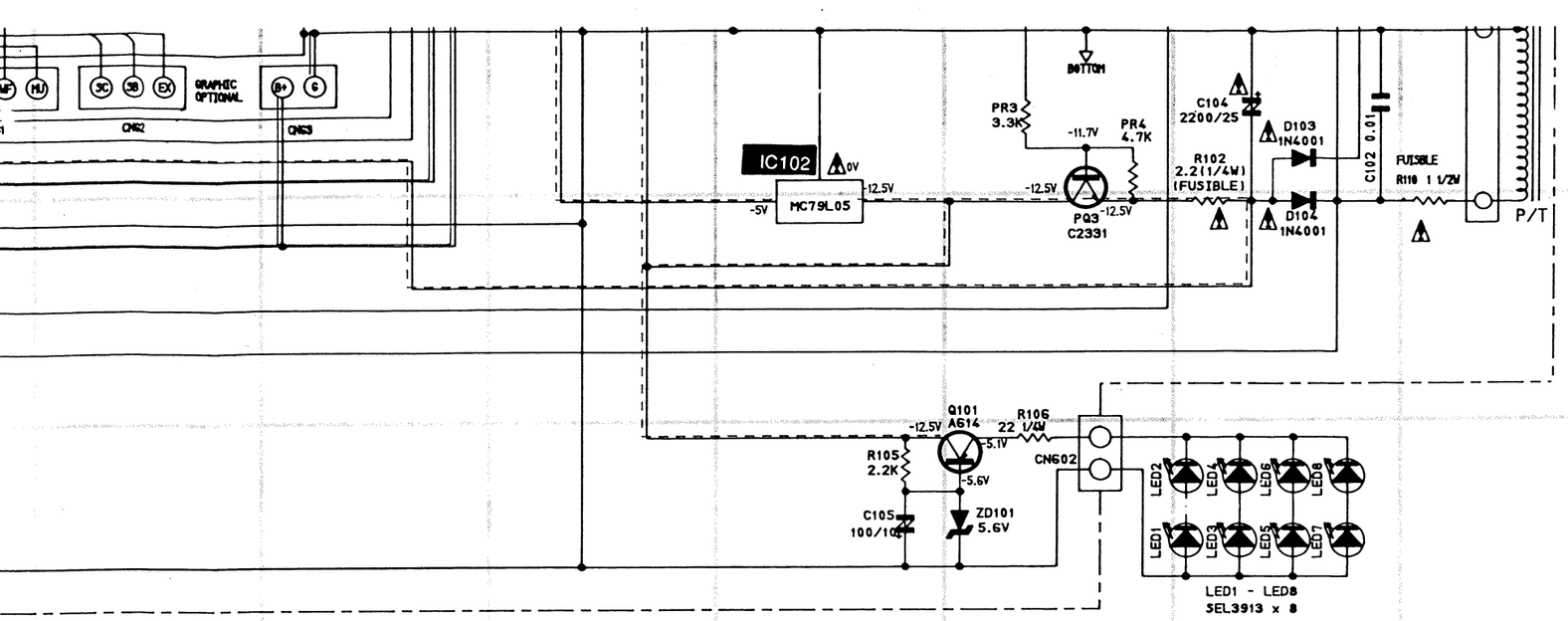


- MC4558S,NJM2068SD(OPAMP): IC502,503



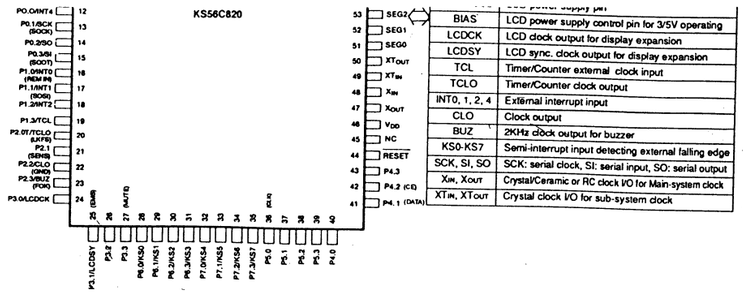
- KDA0316LN (D/A CONVERTOR : IC501





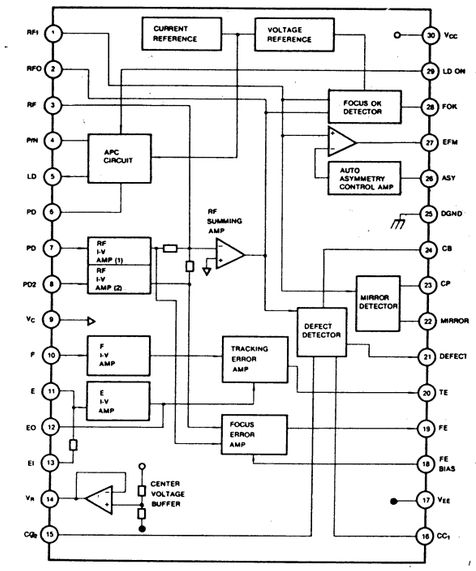
B+ DIGITAL SIGNAL

B- ANALOG SIGNAL

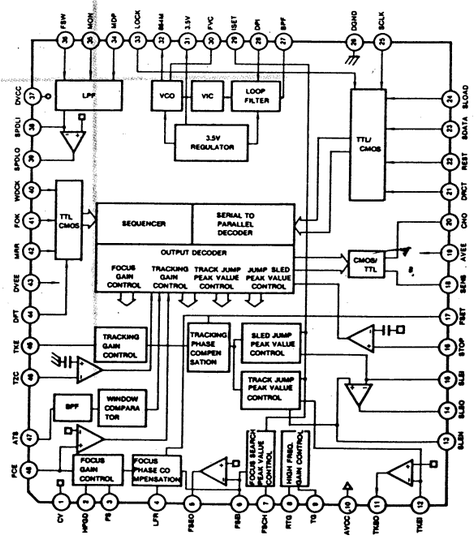


BIAS	LCD power supply control pin for 3/5V operating
LCDCK	LCD clock output for display expansion
LCDSY	LCD sync. clock output for display expansion
TCL	Timer/Counter external clock input
TCLO	Timer/Counter clock output
INT0, 1, 2, 4	External interrupt input
CLO	Clock output
BUZ	2KHz clock output for buzzer
KS0-KS7	Semi-interrupt input detecting external falling edge
SCK, SI, SO	SCK: serial clock, SI: serial input, SO: serial output
X_{IN}, X_{OUT}	Crystal/Ceramic or RC clock I/O for Main-system clock
XT_{IN}, XT_{OUT}	Crystal clock I/O for sub-system clock

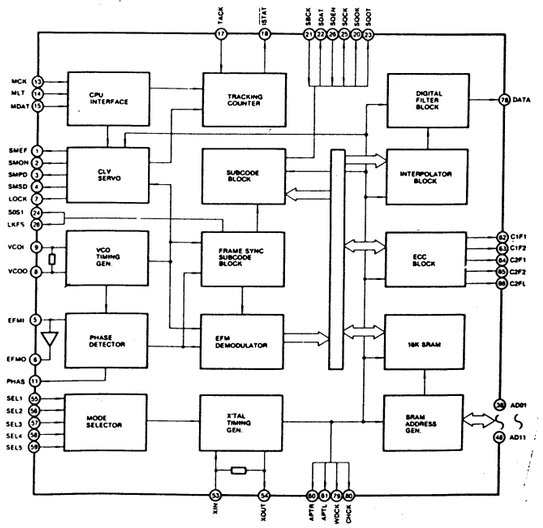
- KA9201 (RF AMP) : IC301



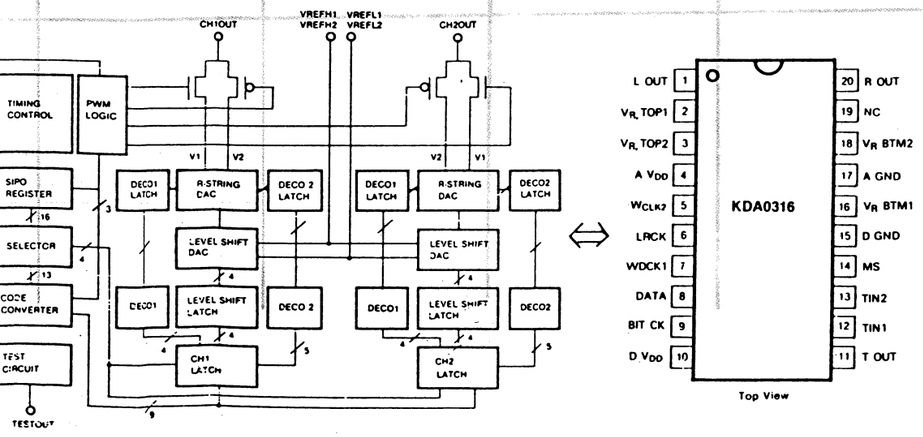
- KA8390(IC-SS PROCESSOR):IC201



- KS5990/KS59910 (DIGITAL SIGNAL PROCESSOR) : IC401

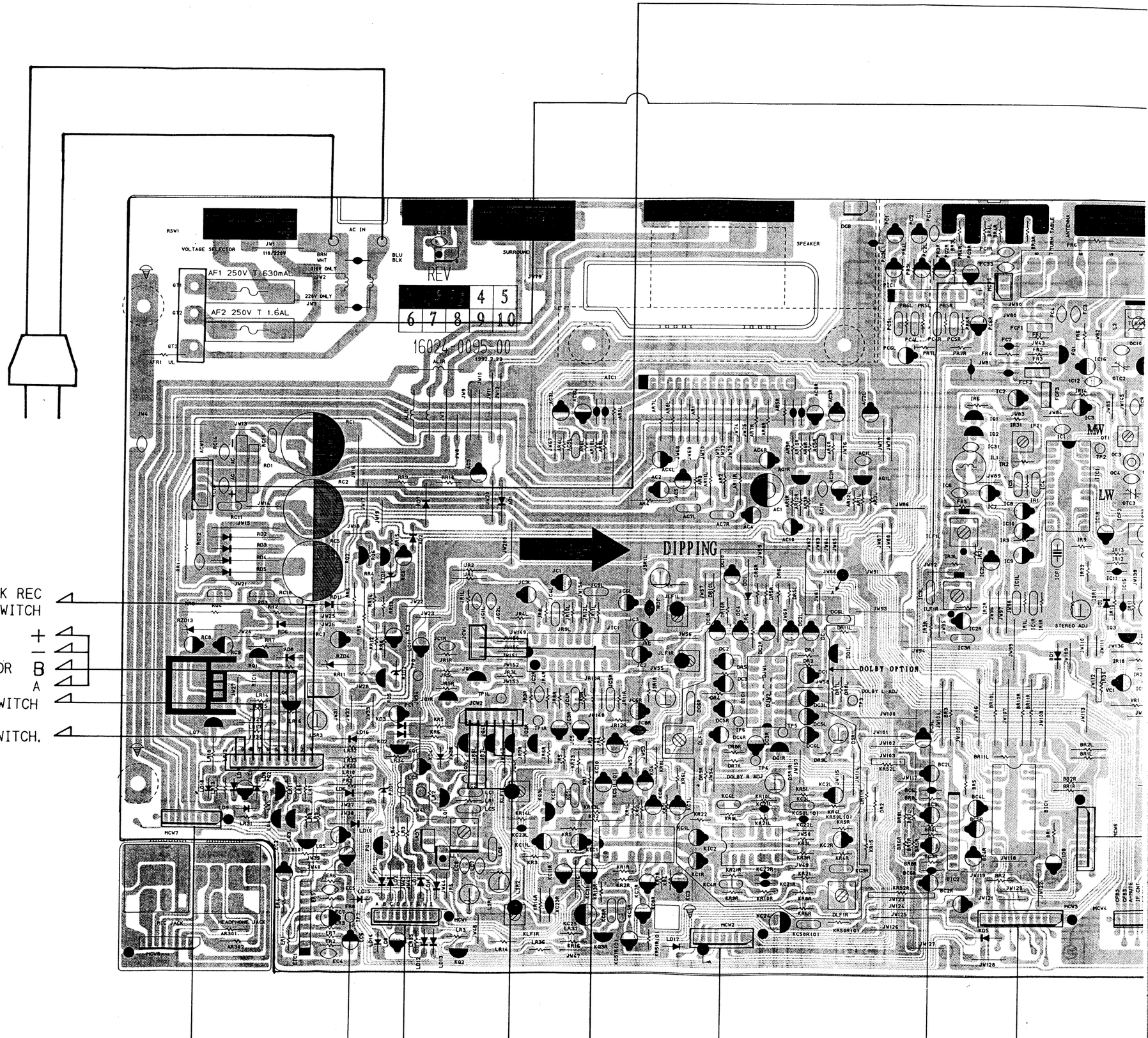


- KDA0316LN (D/A CONVERTOR : IC501

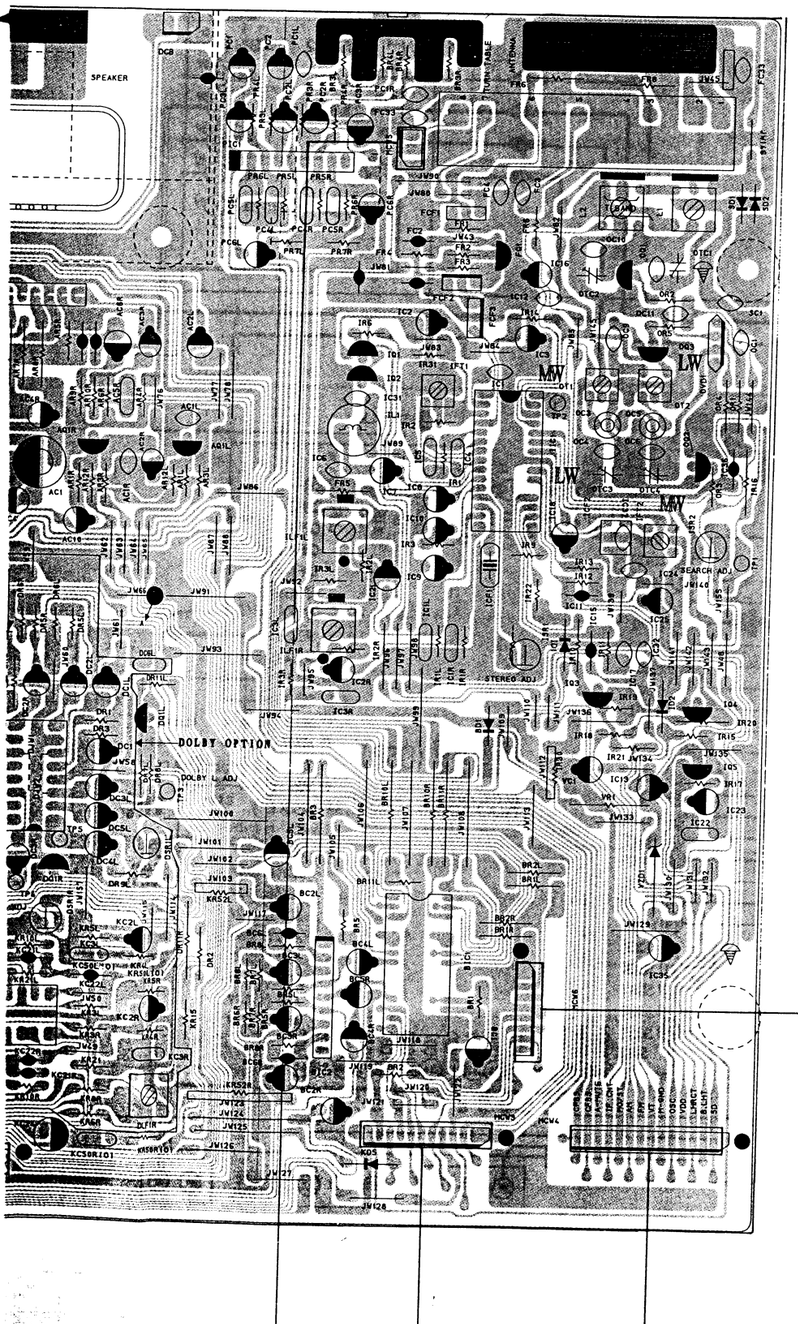


■ WIRING DIAGRAM

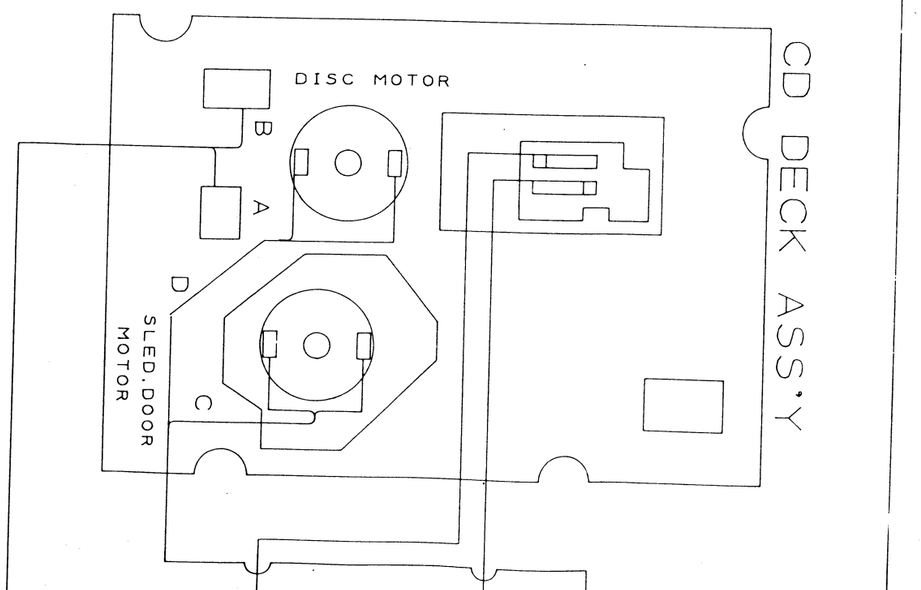
MAIN PCB



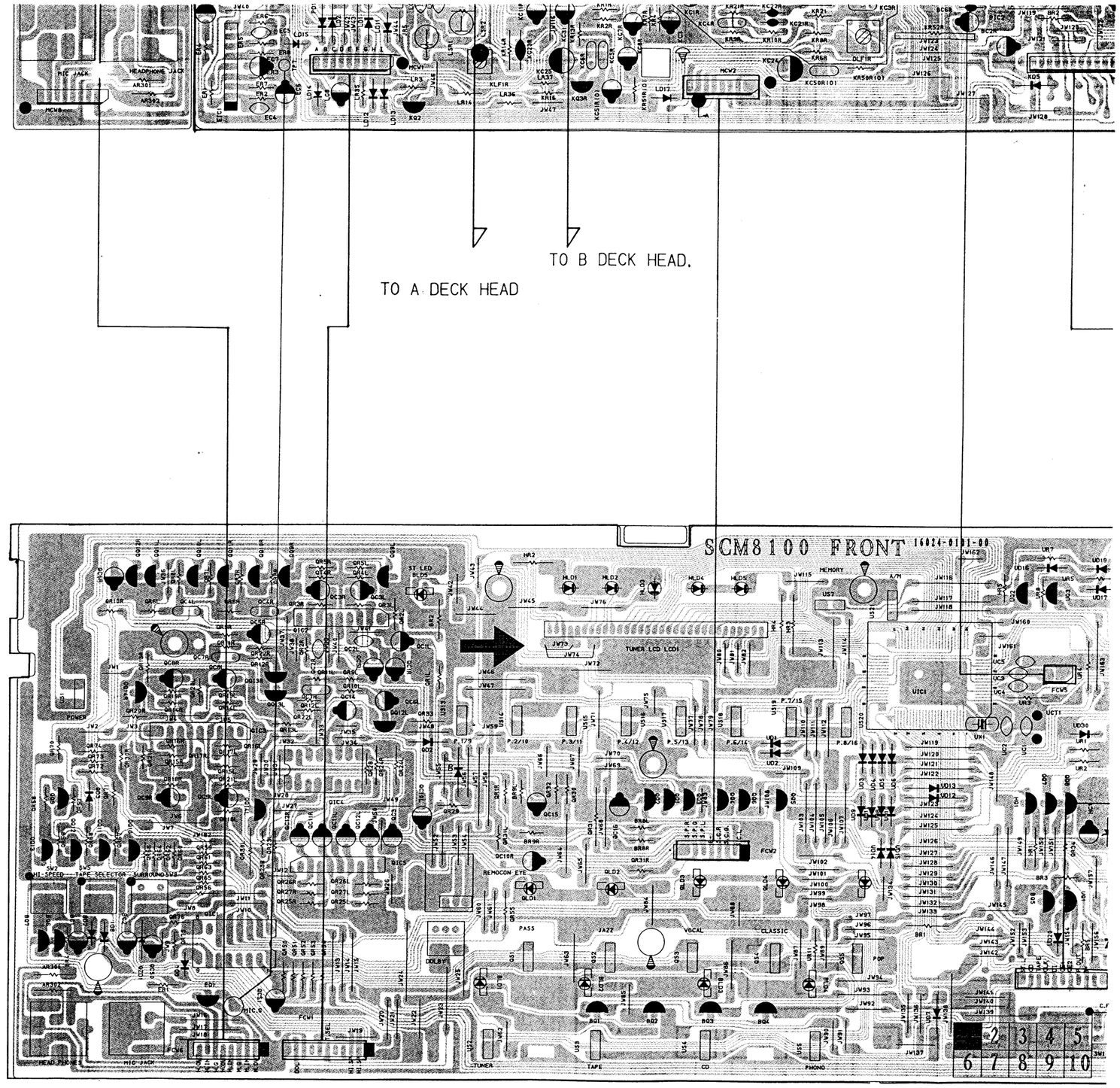
MAIN PCB



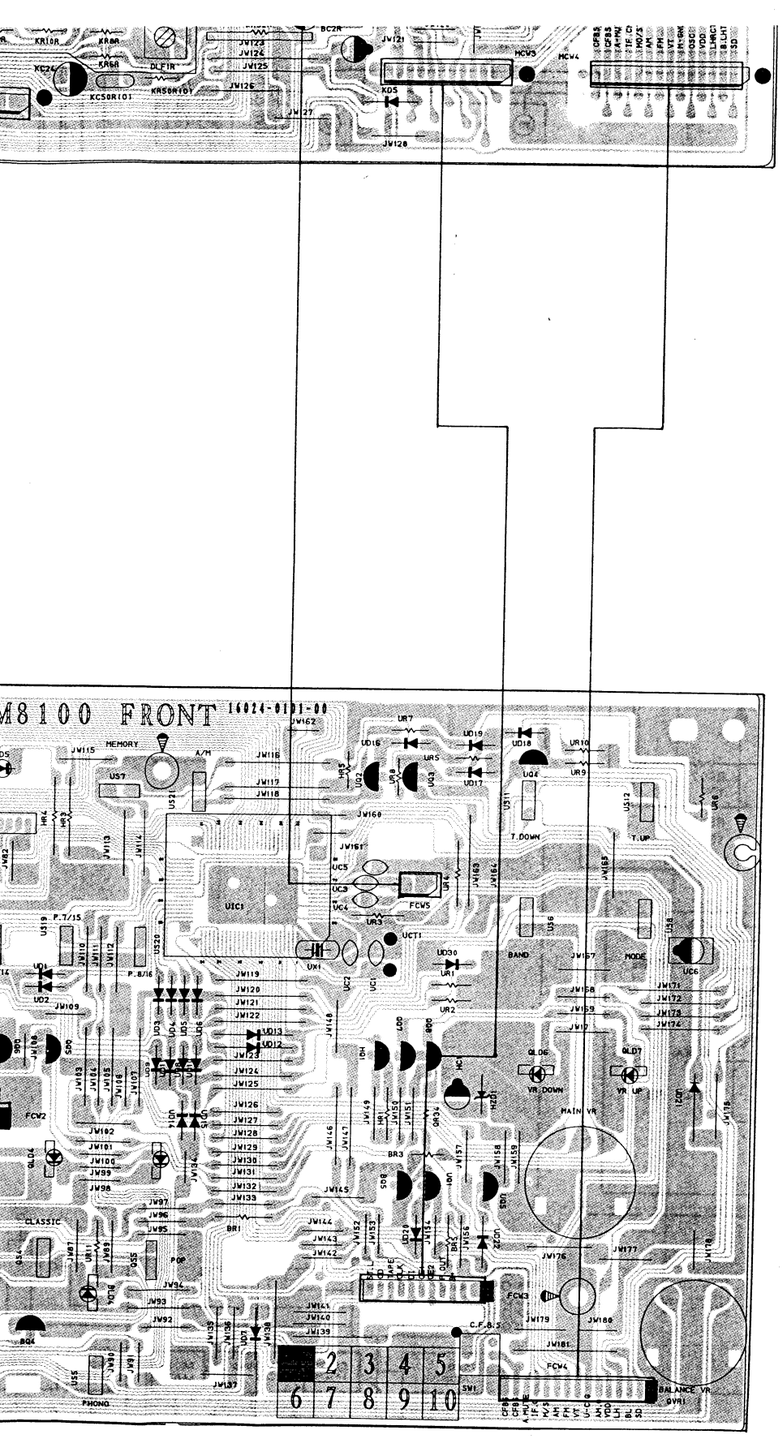
POWER TRANS



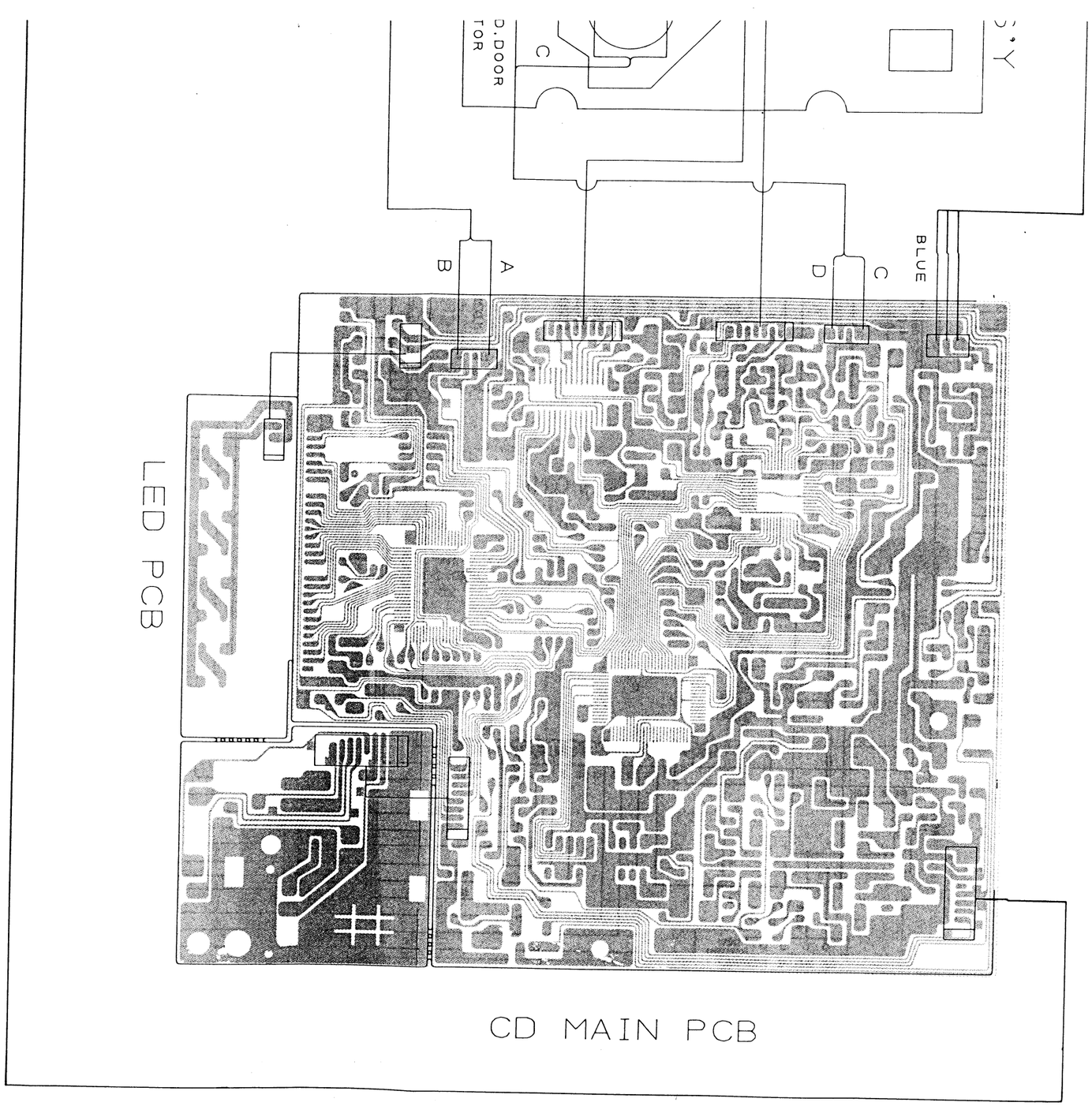
CD DECK ASS'Y


TO B DECK HEAD.
TO A DECK HEAD
SCM8100 FRONT 16024-0101-00
MEMORY
A/M
TUNER LCD LCD1
REMOCON EYE
PASS
JAZZ
VOCAL
CLASSIC
TUNER
TAPE
CD
PHONO
HEADPHONE JACK
MIC JACK
TAPE SELECTOR
SURROUND
1 2 3 4 5
6 7 8 9 10

FRONT PCB



PCB



CD MAIN PCB

■ ABBREVIATION LIST

AC	:	Alternating Current
Addr	:	Address
ADJ.	:	Adjustment
AGC	:	Automatic Gain Control
ALC	:	Automatic Level Control
AM	:	Amplitude Modulation
AMP	:	Amplifier
AMPS	:	Automatic Music program Search
ANT.	:	Antenna
ASSY	:	Assembly
BAL	:	Balance
BLK	:	Black
BLU	:	Blue
BPF	:	Band Pass Filter
BRKT	:	Bracket
CF	:	Ceramic Filter
ch, CH	:	channel
cm	:	centimeter
COM	:	Common
CON MIC	:	Condenser Microphone
D	:	Depth
D/A Convertor	:	Digital/Analog Convertor
dB	:	deciBel
DC	:	Direct Current
DEC	:	Decoder
DET	:	Detector
DEV	:	Deviation
DSP	:	Digital Signal Processor
DTS	:	Digital Tuning System
EA	:	Each
E-HEAD	:	Erase Head
EQ	:	Equalizer
FF or F-FWD	:	Fast Forward
F/F	:	Flip Flop
Fig.	:	Figure
FM	:	Frequency Modulation
FREQ.	:	Frequency
GND	:	Ground
GRN	:	Green
GRY	:	Gray
H	:	Height, High
Hz	:	Hertz
IC	:	Integrated Circuit
IF	:	Intermediate Frequency
IFT	:	Intermediate Frequency Transformer
I/O	:	Input/Output
KHz	:	Killohertz
Kg	:	Killogram
L	:	Left, Low
LCD	:	Liquid Crystal Display
LED	:	Light Emitting Diode
LPF	:	Low Pass Filter
LW	:	Long Wave
Max	:	Maximum
MHz	:	Megahertz
min	:	Minimum
MOD	:	Modulation
MPX	:	Multiplex
MW	:	Medium Wave
NF	:	Negative Feedback
OP AMP	:	Operational Amplifier
ORG	:	Orange
OSC	:	Oscillator
PB	:	PlayBack
PCB	:	Printed Circuit Board
PLL	:	Phase Lock Loop
P/T	:	Power Transformer
R	:	Right
RAM	:	Random Access Memory
REC	:	Record
REG	:	Regulator
REW	:	Rewind
RF	:	Radio Frequency
ROM	:	Read Only Memory
R/P	:	Record/Play
sec	:	Second
SSG	:	Standard Signal Generator
SSP	:	Servo Signal Processor
ST	:	Stereo
ST/EJT	:	Stop/Eject
SW	:	Switch, Short wave
TP	:	Test Point
TR	:	Transistor
TRANS	:	Transformer
V	:	Volt
VIO	:	Violet
VCO	:	Voltage Controlled Oscillator
VOL	:	Volume
Vpp	:	Voltage peak to peak
VR	:	Volume
Vref	:	Reference Voltage
V/SEL	:	Voltage Selector
VTVM	:	Vaccum Tube Volt Meter
VVC	:	Voltage Variable Capacitance
W	:	Watt, Weight
WHT	:	White
X	:	Crystal
YEL	:	Yellow